

THE MILLING WORLD

AND

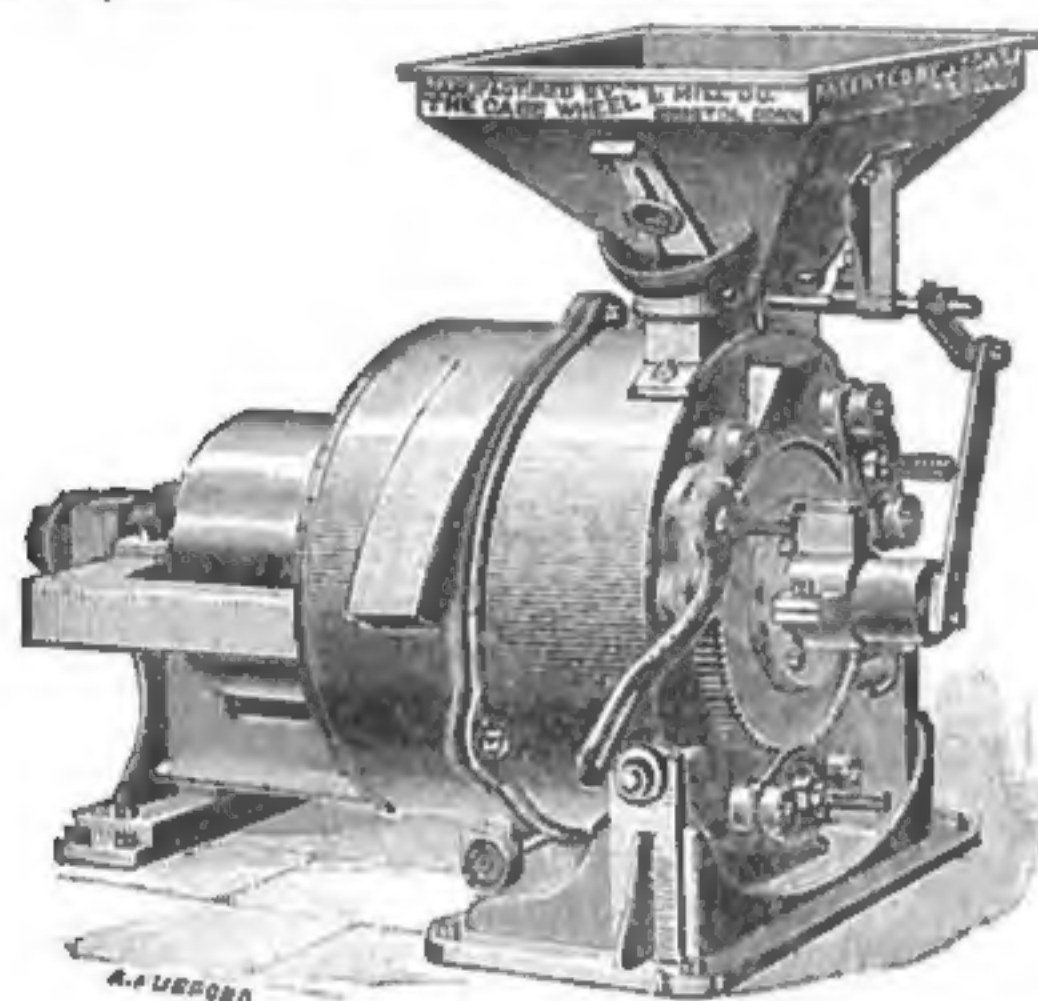
CHRONICLE OF THE GRAIN AND FLOUR TRADE

PUBLISHED EVERY MONDAY MORNING.

VOL. XXI. No. 14.

BUFFALO, N. Y., DECEMBER 2, 1889.

\$1.50 PER YEAR.



VICTORY OVER ALL OTHERS. SINGLE & DOUBLE VERTICAL GRINDING MILLS.

(J. T. CASE'S PATENT.)

FACTS ARE MIGHTIER THAN ASSERTIONS. READ WHAT THEY SAY:

"Our 20-inch mill made by the Case Wheel & Mill Co. is in every respect satisfactory, easy to handle, and best results obtained of any mill in the country, with same quantity coal and power."—A. S. RUSSELL & Co., Meriden, Conn.

"Superior to any mill in use."—Geo. Weston, Bristol, Conn.

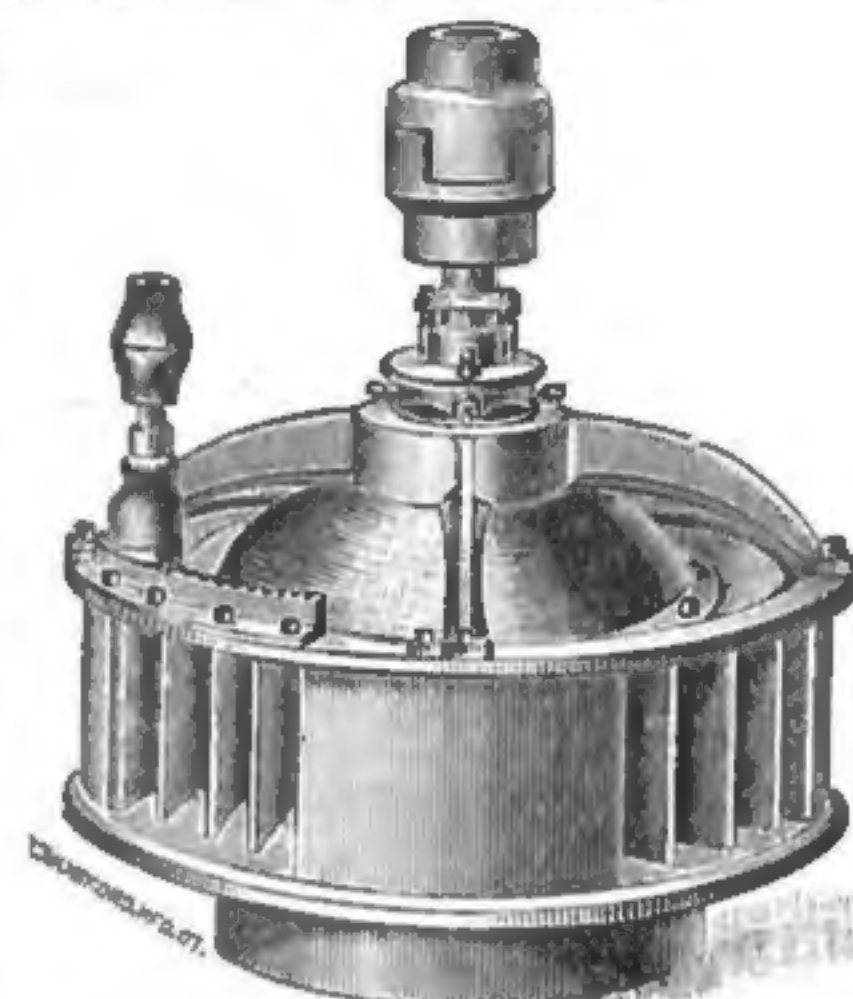
"The best satisfaction in quantity and quality."—CHILD'S ELEVATOR, Manchester, Ct.

"We take pleasure in recommending it."—GARLAND LINCOLN & Co., Worcester, Mass.

SEND FOR CATALOGUE—ILLUSTRATED AND DESCRIPTIVE.

The Improved National Turbine Water Wheel

The Best for Economy; The Best for Durability; The Best for Power. ONE THOUSAND FIVE HUNDRED NATIONAL WATER WHEELS IN USE Prove that our Assertions are Supported by the Leading Manufacturers in the Country. Send for illustrated catalogue and prices to the manufacturers.



The Case Wheel & Mill Co., Bristol, Conn.

WE BUILD THE MOST EXTENSIVE —LINE OF— Flour AND Corn Meal Milling Machinery in America

CUMBERLAND, MD., Sept. 25, 1885.
THE J. B. ALLFREE CO.

INDIANAPOLIS, IND.

SIR: The mill you built for us a little more than a year ago, using one double wheat break and six double Keystone Roller Mills, has been running constantly from the start, and has given us entire satisfaction, running lighter than any mill of equal capacity to our knowledge. Our mill was built for one hundred barrels capacity in 24 hours, easy running, and we can readily run one



hundred and fifty barrels in the same time, making a clean up equal to any in the State. Our flour stands A No. 1, and we have ready sale for it. We attribute this success to the perfect Roller Mills with their unequaled feed, the perfect system you advocate, and having the mill and machines under perfect control at all times. We believe the "One Roll Wheat Break" and the "Keystone Roller Mills" are the best machines made. CUMBERLAND MILLING CO.,
Jno. M. Cook, Treasurer.

FLOUR MILLS. CORN MILLS. HOMINY MILLS.

Our machines are constructed of the best material and workmanship that can be procured.

Address for catalogue, etc.,

The J. B. Allfree Co., Indianapolis, Ind.

CASE.

CASE MFG. CO., COLUMBUS, O.
GENTLEMEN: If we were to build a hundred mills we
would not permit any other than the "CASE" roll to
enter them. They are the best roll on earth.
Yours truly,
W. C. MANSFIELD & CO.

W. C. MANSFIELD & CO.,
MERCHANT MILLERS,
CLEVELAND, TENN., AUG. 29, 1889.

CASE.



VOL. XXI. No. 14.

BUFFALO, N. Y., DECEMBER 2, 1889.

\$1.50 PER YEAR.

WITH their usual facility for butting their heads against imaginary objects, some American journalists announce that "Minneapolis has lost her supremacy as a milling center, at last!" Who has found it? When was it lost? Particulars will be well paid for at this office.

DESPITE the confidence of certain German authorities that the Haggemacher "Plansichter" and the Kreiss "Gegenflachen Sichter" are really great and positive "revolutions" in flour-making machinery, we shall continue to pin our faith on American flour-dressing machinery until these latest German "revolutions" have been thoroughly tested. The millers of this country have been, for ten years and more, putting in new "revolutions" and throwing them out for newer "revolutions," and they have found the process a costly one in every way. The only compensation seems to be that they have settled the claims of all the "revolutionary machines," proving most of them valueless, some of them good, and few of them perfect. At present they are neither looking nor longing for any genuine "revolutions." The American flour-makers, while not proposing to stand still, by any means, do not propose to go into another decade of costly experimenting with European machinery. They evidently feel like letting the Germans experiment with the "Plansichter," the "Gegenflachen Sichter" and other "revolutionizing machines" at their own expense.

WESTERN farmers appear to have solved the problem of making corn "king" in every way. They have long made the yellow grain an important article of food for both man and beast, and now they are going a step further and utilizing maize as fuel. A report from Hiawatha, Kansas, gives the following information concerning the present use of corn as a fuel: "The farmers of this vicinity are burning corn for fuel, finding it cheaper than fuel. Corn is sold on the farm at 20 cents per bushel, while the average price of coal delivered at the farm ranges from 21 to 23 cents per bushel. The Farmers' Alliance brought the attention of the farmers to the relative prices of the two commodities, and advised that half the corn crop be used as fuel, thus advancing the price of the other half and saving money in their fuel bills. The farmers have begun to act on this advice." Of course this is not the first time corn has been used as a substitute for wood and coal in the West, but it is the first time, so far as we know, it has been thus used from choice and not from necessity. If the suggestion of the Farmers' Alliance be generally adopted, two results will follow: 1. The West will require much less fuel from the East and from other sections. 2. The West will make corn much dearer to all the non-corn-growing sections. The Alliance suggests a curious solution of a serious problem. Will it work?

MISSOURI leads the way in attempting to show what can or can not be done in the way of preventing or squelching "trusts" by legislation, by prosecution and by penalty. There are about 7,500 corporations doing business in the State, and they will all be required to make a statement, under oath, that they have not created or entered into any

pool, trust, agreement, combination, confederation or understanding with any other corporation, partnership, individual or any other person or association of persons to regulate or fix the price of any article of merchandise or commodity, and that they have not entered into or become a member of or a party to any pool, trust, agreement, contract, combination or confederation to fix or limit the amount or quantity of any article, commodity or merchandise to be manufactured, mined, produced or sold in that state, and that they have not issued and do not own any trust certificates and are not now engaged in any combination, contract or agreement, the purpose and effect of which would be to place the management or control of such combination or the manufactured product thereof in the hands of any trustee, with the intent to limit or fix the price or lessen the production and sale of any article of commerce, or to prevent, restrict or diminish the manufacture or output of any such article. The outcome of this law in Missouri will be watched with interest in all other states.

ONE of our most esteemed cotemporaries suggests that THE MILLING WORLD "deals overmuch in statistics." It is barely possible that this journal, in presenting to its readers all the reliable official totals of the grain and flour trades, may "deal overmuch" in the very things that most directly and most intimately interest millers, but common-sense would seem to point out that those very reports are just what the readers of a live milling journal wishes to read. Within the past week one of our subscribers, a wealthy miller, who is a subscriber to four milling journals beside THE MILLING WORLD, in a letter containing money for the renewal of his subscription, takes occasion to commend us for the fullness and accuracy of the figures which we have given in connection with the milling and grain trades. He says, among other things: "I must say that THE MILLING WORLD, while perfectly filling the field as the most independent, most liberal, most fearless and most outspoken milling journal in the country, satisfies its patrons with careful statistics from official sources that are of great value to every miller who wishes or proposes to keep posted in the details of his business. Your paper comes always to the front with the latest ideas on milling subjects, descriptions of new machines and outlines of new processes, and I do not feel that I could afford to be without it." We did not send the writer a complimentary subscription to THE MILLING WORLD for a year, but we propose to send him the worth of his money in a full presentation of every single thing relating to his business, including all the valuable statistics that summarize the work of the trade during the year. If this shall be "dealing overmuch" in these things, so let it be. We have also been accused of "dealing overmuch" in independence as well as in statistics, but the "whole field," or nearly the whole, is struggling bravely to follow us in declaring independence, so that we are not feeling lonely. Cool official statistics are far more valuable to intelligent business men, like millers, than so much flubdub like that which deadens and leadens the columns of so many would-be milling journals.

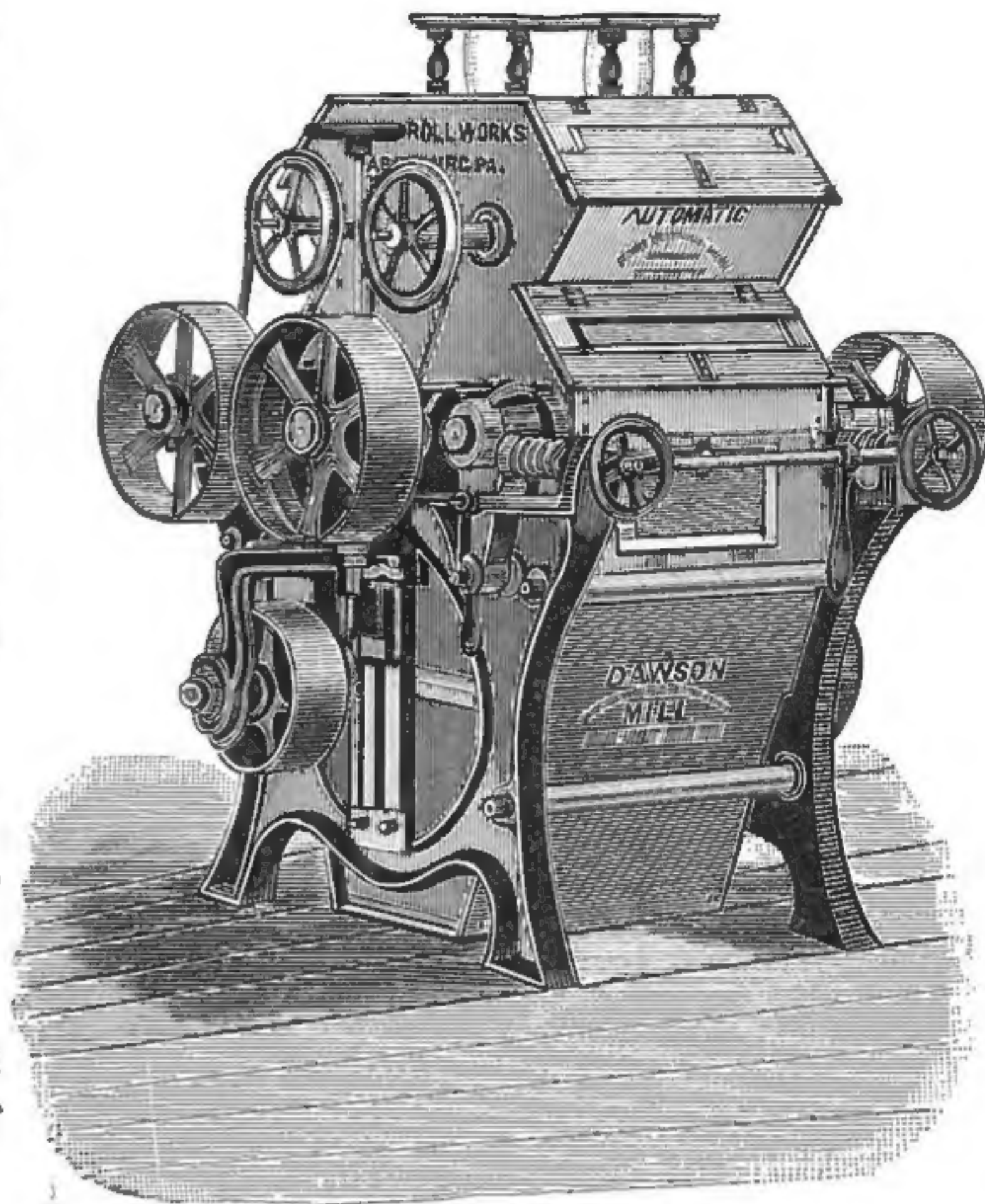
Dawson's Roller Mill

Is acknowledged to be the very best in the market. It has our Patent Automatic Centrifugal feeder, never failing to feed the stock the full length of rolls in an even sheet. It is the Latest and Best feed out, uses less power and is simple in construction. It can be placed on any style of machine with little expense. We use for roll bearings phosphor-bronze metal which will admit rolls being run at any speed without heating and with little friction, and uses little oil. We use the Dawson Corrugation, which is admitted the best in long or short system mills as the action is granulating rather than CUTTING.

We have a large plant to Re-grind and Re-Corrugate Rolls.

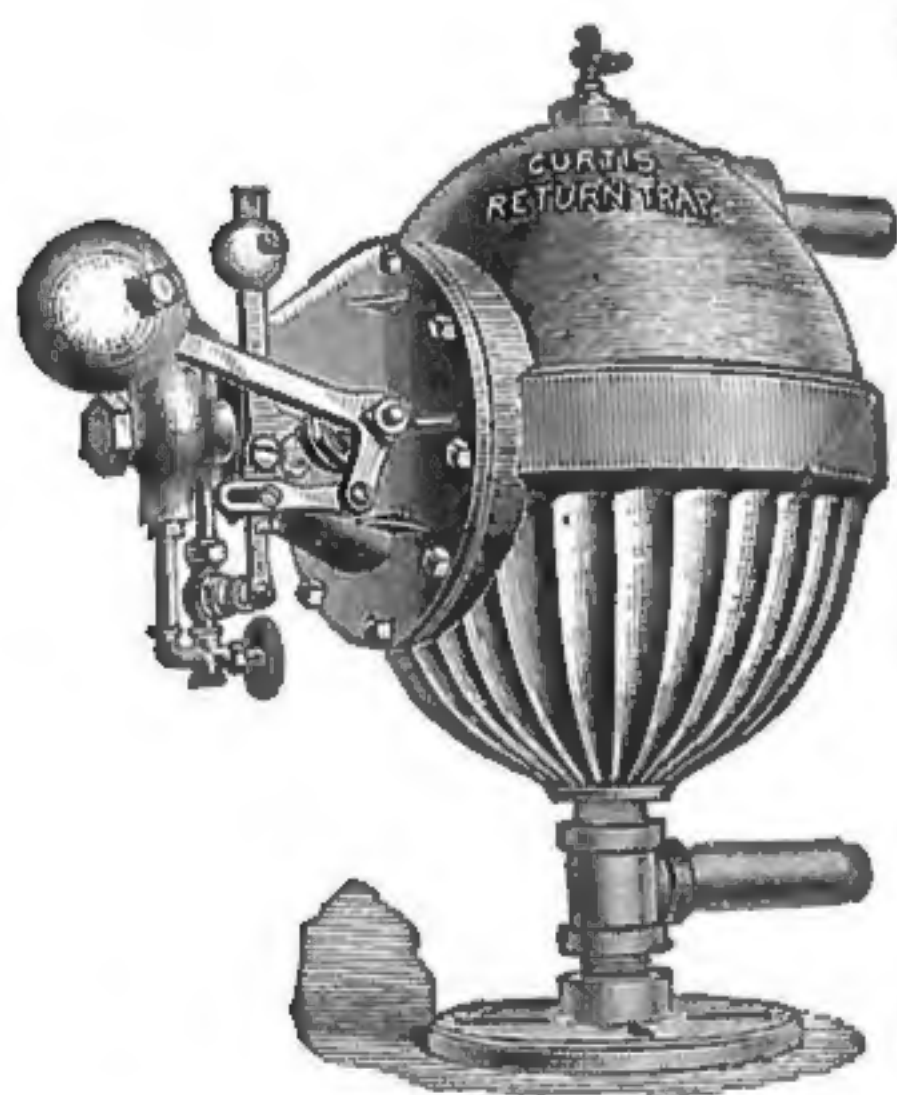
Owing to our late increased facilities and central location we are enabled to ship goods promptly on the shortest notice.

PARTIES CONTEMPLATING REMODELING THEIR MILLS OR BUYING ANY ROLLER MACHINES ARE REQUESTED TO PUT THEMSELVES IN CORRESPONDENCE WITH US.



FOR PRICE LISTS AND CIRCULARS, ADDRESS,

Dawson Roll Works, Harrisburg, Pa.



THE CURTIS PATENT RETURN STEAM TRAP.

IT is noiseless, positive, rapid, will return all condensation back into the boiler, and works equally well in connection with reduced pressure or exhaust steam, also when the return is below the water line of the boiler.

THE CURTIS REGULATOR COMPANY,
NO. 74 BEVERLY ST., BOSTON, MASS.

GENERAL AGENCIES.

New York, 109 Liberty st. Minneapolis, 210 S. Third st.
Philadelphia, 2085 N. Front st. Chicago, 218 Lake st.

L. L. WHITLOCK,
Advertising Agent

FOR MANUFACTURERS.

TRADE JOURNALS A SPECIALTY.

P. O. DRAWER 5323. Boston, Mass.

As Agent for Advertisers instead of Papers, I obtain the Best Rates Possible for my Customers.

The Canton Cabinet Filing Case Company, Canton, Ohio.

MANUFACTURERS OF

The New Buckeye Document Case & Letter File; Also All Kinds Office Furniture



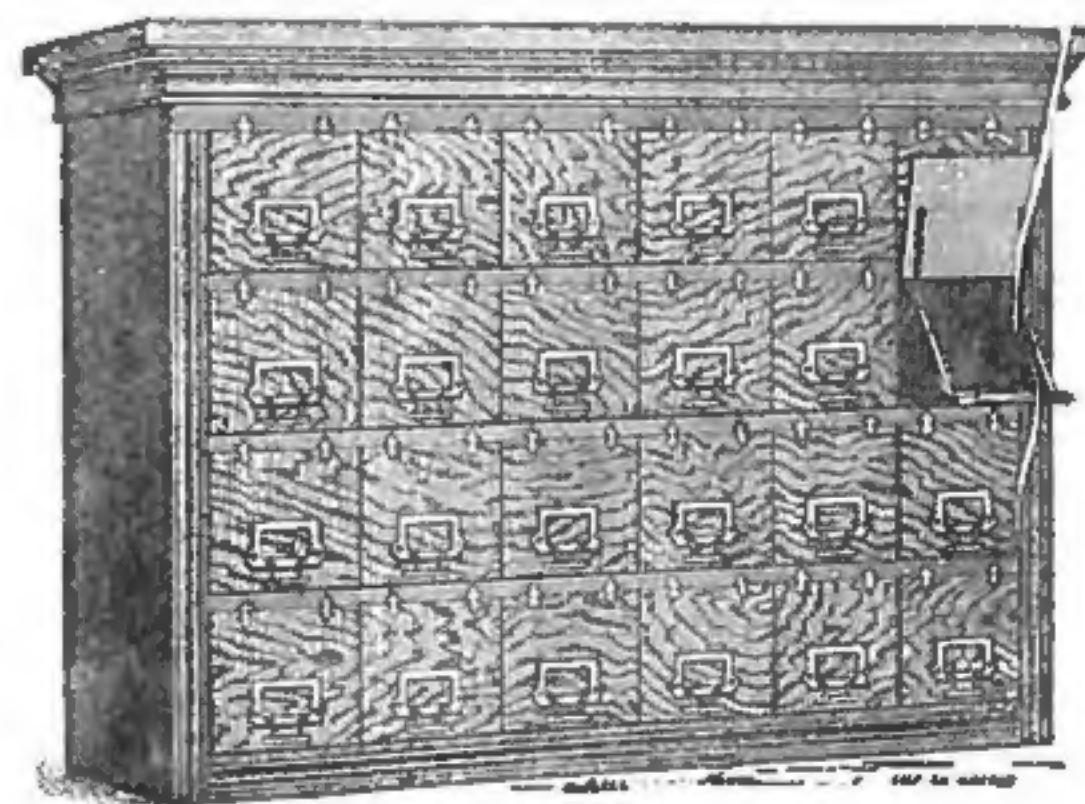
NO. 8.

NO. 8 Represents one side of one of our Revolving Cabinet Letter Files and Document Cases Combined. It contains 30 Document Drawers and 8 Letter File Drawers. In filing letters we use first VOWEL of name on front of drawer, and LETTER FOLLOWING first VOWEL on Index Sheet within drawer. We also make more exhaustive systems which contain from 6 to 100 or more Filing Drawers.

NO. 1 Represents one of our small Document Cabinets, for use on desks or brackets. Action of drawer can be seen in the cut. When front is raised inner drawer comes forward, exposing contents of drawer for inspection.

Our Cabinet Files are Conceded to be the Most Convenient of Any in the Market. They are Compact, Simple, Complete, Durable and Ornamental.

SEND FOR PRICE LIST AND CATALOGUE.



NO. 1.

THE MILLING WORLD

AND
CHRONICLE OF THE GRAIN AND FLOUR TRADE

PUBLISHED EVERY MONDAY. OFFICES: { Corner Pearl and Seneca Streets,
Over Bank of Attica.
McFAUL & NOLAN, - - PROPRIETORS.
THOMAS MC FAUL. JAMES NOLAN.

SUBSCRIPTION.

In the United States and Canada, postage prepaid, \$1.50 Per Year, in advance; remit by Postal Order, Registered Letter, or New York Exchange. Currency in unregistered letter at sender's risk.
To all Foreign Countries embraced in the General Postal Union, \$2.25 Per Year, in advance.
Subscribers can have the mailing address of their paper changed as often as they desire. Send both old and new addresses. Those who fail to receive their papers promptly will please notify at once.

ADVERTISING.

Rates for ordinary advertising made known on application.
Advertisements of Mills for Sale or to Rent; Partners, Help or Situation Wanted, or of a similar character One cent per word each insertion, or where four consecutive insertions are ordered at once, the charge will be Three cents per word. No advertisement taken for less than 25 cents. Cash must accompany all orders for advertisements of this class.
Orders for new advertisements should reach this office on Friday morning to insure immediate insertion. Changes for current advertisements should be sent so as to reach this office on Saturday morning.

EDITOR'S ANNOUNCEMENTS.

Correspondence is invited from millers and millwrights on any subject pertaining to any branch of milling or the grain and flour trade.
Correspondents must give their full name and address, not necessarily for publication, but as a guarantee of good faith.
This paper has no connection with a millfurnishing house and aims to represent the trade without prejudice, fear or favor.
Address all communications

THE MILLING WORLD,
BUFFALO, N. Y.

Entered at the Post Office, at Buffalo, N. Y., as mail matter of second-class.

SITUATIONS WANTED.

Advertisements under this head, 25 cents each insertion for 25 words, and 1 cent for each additional word. Cash with order.
Four consecutive insertions will be given for the price of three.

WANTED.

Situation wanted by a Miller of 9 years' experience, 24 years of age, of steady habits and willing to work. Address, H. care of The Milling World, Buffalo, N. Y.

WANTED.

Western New York, Ohio and Pennsylvania mills in want of a temperate miller, with 20 years experience, should write to the undersigned, who is now running a first class mill, but would like to make a change this fall. Address, W., care of THE MILLING WORLD. 56

SPECIAL ADVERTISEMENTS.

Advertisements of Mills for Sale or Rent, Partners Wanted, Machines for Sale or Exchange, etc., etc., cost 1 cent per word, for one insertion, or 3 cents per word for four insertions. No order taken for less than 25 cents for one insertion, or 50 cents for four insertions. Cash must accompany the order. When replies are ordered sent care of this office, 10 cents must be added to pay postage.

FOR SALE.

Merchant and grist mill. The best water-power in Ohio. Situated five miles from Mentor, Ohio. For particulars enquire of C. S. JOHNSON, West Mentor, O. 1216

SITUATION WANTED.

As miller, by an active young man, used to rolls and stones. Strong, willing and not afraid to work. Best of references. Address "E. N.," 109 East Eagle street, Buffalo, N. Y. 811

FOR SALE.

Several good second-hand and new turbines of various styles. Second-hand price list and descriptive matter and prices of our new machines sent free. Every one interested in the shortest route to successful milling on rolls or in grinding corn and feed with the least expense of power, should address us before buying.

FLENNIKEN TURBINE CO.,
Dubuque, Iowa.

8tf

MILL MACHINERY FOR SALE.

One No. 0 Standard Combined Separator, Smutter and Brush Machine; new, best make.
One 20-Inch Under-Runner Portable Mill, French Buhr Stone, capacity 10 to 12 bushels per hour; new, best make.
One 14-Inch Vertical Feed Mill; best make, new, a bargain.
One No. 6 Dustless Separator; new, a bargain.
One No. 1 Full Rigged Combined Dustless Separator; new, a bargain.
Four Corn Cob Crushers, right or left hand, driven from above or below, best make; capacity 40 to 60 bushels per hour.
Three No. 1 Corn Shellers, capacity 200 to 300 bushels per hour; new.
One No. 2 Purifier. New. Best make. A bargain.
For particulars address, FRANK SMITH, care of THE MILLING WORLD, Buffalo, N. Y. 5tf

FOR RENT.

Clinton Mills, at Black Rock, Buffalo, for rent on reasonable terms, recently repaired and put in good order. Apply to CHAS. DANIELS, over 311 Main Street, Buffalo, N. Y. 6tf

FOR SALE.

Full roller mill, 100-bl. steam power; also, a water power buhr mill, dwelling and ten acres of land. Prices low on either and terms easy. Address, J. R. ENGLISH, Piketon, Ohio. 10

WANTED.

A miller who can purchase an interest. Business rapidly increasing. Must enlarge mill and add machinery. Only mill in this, Gray's Harbor, region. Good water-power. Address, REV. HIRAM F. WHITE, Elma, Chehalis County, Washington Territory.

THE year 1889 promises to close without bringing any further "milling revolutions." It is well. There are already enough flour-making machines in existence. Instead of longing for and trying to invent new ones, it would be better to attempt the perfecting of some of the old ones.

NOTWITHSTANDING the prattle of certain esteemed cotemporaries, Minneapolis will continue to turn out several barrels of flour a year. As a "milling center" corpse, Minneapolis is really a lively one. Don't bury the northwestern flouring town before it is dead. Ante-modern obsequies are ridiculous.

THE ideally perfect flouring-mill for small millers is yet to be perfected. There is a large field for the man or men who will apply invention and experience to the construction and equipment of the small mill, with the aim of enabling the small miller to produce flour equal in quality and cost of production to the flour of the larger mills. It is loosely claimed that this can never be done, but there is little doubt that during the past five years great advancement in this direction has been made, placing the smaller miller nearly on a level with the larger one. Five years more of experiment in this direction may bridge the present gap between the two classes of millers.

ONCE more the "statistical position of wheat is very strong," according to the current market phrase, and yet wheat continues to sag, sink, drag, slouch, slump, flunk and act in general as though the "statistical position" was the weakest of the weakest. The fact is that the importing countries have at the present time the ability to draw from so many different sources, by means of increased transportation facilities to every part of the civilized world, that the "statistical position" does not count for as much as it used to. Wheat is harvested every month in the year, and the importing nations are now in communication with harvest-seasons the year around, making them independent of the conditions which, only ten or fifteen years ago, confined them to certain sections for a supply of wheat.

A EUROPEAN correspondent, a man who has spent several years in the United States and is familiar with the workings and the products of American mills of all capacities from 50 barrels to 5,000 barrels daily, writes that a comparison of the average American mill with the average British, French, German or Austro-Hungarian mill will invariably result in favor of the American mill. He says that, while the best mills of Germany and Hungary do make really fine flour, those best mills are few in number and their product is no better than the best products of the best American mills, while in the majority of the European mills the product in no wise compares with that of American mills. His comparison covers the industry in every particular, the style of plant, the efficiency of equipment, the economy of labor in handling stock and product, the consumption of power, and the average quality of the output. Throughout European country districts and smaller towns he finds bad bread, bad in color, bad in texture, bad in flavor, bad in indigestibility, sour, black, rank and unpalatable, and in no respect so good as the bread generally found in American rural districts and villages. In the larger European towns he finds very fine bread, but no finer than the very fine bread to be found in the larger American towns.

M-I-L-L-E-R-S

Wanting Bolting Cloths should write for discounts on same before purchasing elsewhere to

SAMUEL CAREY
17 Broadway New York.

GRAIN INSPECTORS IN MISSOURI.

The following is a complete list of the officials connected with Missouri's Grain Inspection Department:

Chief grain inspector—Jasper N. Burks, of St. Francois county.

Deputy chief inspector—Joseph M. O'Shea, of Franklin.

Supervising inspector for St. Louis—Frank T. Washington, of St. Louis.

Supervising inspector for Kansas City—John L. Martin, of Jackson.

Supervising inspector for St. Joseph—John W. Harmon, of Nodaway.

Assistant inspectors for St. Louis—Thomas W. Dandridge, of St. Louis, James A. Miller, of Lawrence, J. V. McPike, of Ralls, John H. Meyers, of Scotland, S. P. Broughton, of New Madrid, R. P. Thompson, of Cole, H. M. Baker, of Callaway, W. J. Harris, of Boone, W. F. Carroll, of Lewis, Frank B. Webb, of Crawford, K. H. Moris, of Pike, N. W. Edwards, of Montgomery.

For assistant inspectors at Kansas City—James Russell, of Jackson, Theodore F. Priest, of Randolph.

For register at St. Louis—Daniel O'Connell, Tracy.

For chief clerk at St. Louis—W. H. Shaw, of Madison.

For office clerks at St. Louis—E. S. Frost, of Audrain, Smith Downing, of Cole, Charles Rausch, of St. Louis, Benton Koontz, of Marion, John Hennessy, of St. Louis, Walter Crenshaw, of Greend.

For chief clerk at Kansas City—J. Rhey McCord, of Osage.

For assistant clerks at Kansas City—Baxter Brown, of Johnson, John Booth, of Jackson.

For chief clerk at St. Joseph—Frank C. McDonald, of Buchanan.

For helpers at St. Louis—John M. Gains, of Ste. Genevieve, Ed B. Halligan, of Franklin, Richard O'Hearne, of St. Louis, Brown Bridgeford, of Monroe, Joseph McIntyre, of Scotland, John D. Dwyer, of St. Louis.

For helpers at Kansas City—John Teasdale, of Jackson, M. J. Regan, of Jackson, Lewis Neal, of Lafayette.

POINTS IN MILLING.

FRENCH milling ideas, as shown in the great Exposition in Paris, France, during the past summer, offer interesting points of comparison with milling ideas prevailing in the United States. In the French section of the machinery hall, A. Malliary, of Essonnes, Seine-et-Oise, exhibited two double roller-mills, one having rolls about 17 inches long and the other having rolls about 9 inches long. The one with the 17-inch rolls is furnished with rolls on the Doloire system, patented, by means of which four, five or six breaks can be effected on a single mill. The accessories of both these mills are identical; they only differ in the length of their rolls, which will, of course, vary according to the amount of wheat to be treated. This roller-mill is certainly a very solid and well constructed piece of work. The rolls are welded on steel axes by a hydraulic press and rotate in swivel bearings of a special construction and made in one piece, which allow the rolls to be worked on one side without wedging. The plummer-blocks contain abundant reservoirs of oil, in which the swivels and spindles dip, and it is claimed that this liberal provision for the lubrication of the bearings effectually precludes any danger of heating. Great care has been taken with the adjustment mechanism of this mill, and it is claimed that complete success has been attained in this important feature. To adjust the distance between the rolls, two discs are provided at each end of the mill; these may either work independently or in unison, according as it may be desired to work on one or both of the roller ends. Then there is the adjustment of the axes of the rolls, which should be kept in true parallelism, if the mill is to do good work. Mr. Malliary holds that the most suitable adjustment of the axes of rollers is by horizontal elevation. In this mill it is a very simple matter to alter the height of roll bearings, which are movable. All that it is necessary to do is to loosen the screws of the bearings of the movable roll inside the machine, and to shift the axis of the roll until it is perfectly parallel to the axle of the fixed roll. The bearing is

kept in its new position by a screw. The roll pressure is regulated by a hand-wheel fixed in front of the machine, which wheel works a powerful spring band. It is claimed that at any moment the rolls may be thrown apart by the simple pressure of a lever at the right of the machine, which is strong enough to overcome any tension of the springs. The flow of the feed is regulated by two discs placed in front of the hopper, as well as by a set of agitators, which are meant to prevent any choking. A bell is provided to give warning when the mill is running empty. When once the rollers have been adjusted, they are effectually maintained in position and prevented from injuring each other's groovings by special screws placed in front of the movable blocks. In regard to this machine it is noted that each pair of the 17-inch chilled-iron grooved rolls is divided into two equal parts by a wall or division, which passes right through the frame of the roller-mill. This allows two separate breaks to be effected on the one pair of rolls. Thus the whole mill is divided into four sections, by which means, Mr. Malliary contends, a plant is obtained capable of treating as much wheat as four double roller-mills with 9-inch rolls, and with a diameter of 5½ inches. A particular system of shaking sieves has been devised for this mill, and it is claimed that with their help the work of a stone mill of like capacity can be performed at a smaller expenditure of power. It should be mentioned that the roller frames are of one solid piece.

THE London "Miller" makes the following interesting note of another French milling exhibit: The Societe Generale Meuniere of La Ferte-sous-Jouarre has a fine display of millstones, of rough blocks for the manufacture of millstones, and of all descriptions of milling machinery. This company was formed in 1881 by the amalgamation of several of the best millstone makers of La Ferte-sous-Jouarre and Epernon, and works with a capital of \$1,027,000, the greater part of which is believed to have been subscribed by the amalgamating firms. Although at first formed for continuing the manufacture of millstones from the famous quarries of La Ferte-sous-Jouarre and its neighborhood, the company a few years ago entered the ranks of milling engineers and extended its activity to the fitting and equipment in all branches of flour-mills, roller-mills included. In taking this course the company was merely keeping step with the march of progress, but it still remains one of the largest manufacturers of millstones in the world and has a wide circle of customers beyond the borders of France. In 1889 it exported about 7,000 millstones of different diameters, and taking one year with another its quarries furnish various foreign countries with from 7,000 to 8,000 tons of raw stone. All this material being intended for the manufacture of millstones, it is not surprising to learn that this company gives employment to between 7,000 and 8,000 quarrymen and other laborers. At this firm's stand, which is situated in the French Section of the Machinery Hall, is shown a roller-mill fitted with two pairs of rolls, one of which pairs is of smooth chilled iron and the other porcelain; a roller-mill, fitted with four grooved chilled-iron rolls, for breaking down wheat; a centrifugal flour-dressing machine; two sets of wheat cleaning machines, and two wheat washers and dryers. This grain-washing machine is made of iron throughout, and although it has not been very long on the market, it is said to have received already many different applications. The wheat, on being fed into this machine, is at once submitted to a blast of air, which has, it is claimed, the effect of eliminating a large quantity of dust and other foreign elements of light gravity; this preliminary cleaning is held to have the advantage of simplifying the subsequent operations of lessening the volume of wastematter in the washing vat, as well as of minimizing the danger of chokes. It is also claimed that this washer exhibits a great economy, both of power and water, relatively to its capacity; the drum in which the wheat is dried is of a conical shape, a form which, while hastening the drying process by the powerful draught exercised on the wheat, is also said to act as a check on the overheaping of material. To this conical shape the manufacturers attribute considerable importance, maintaining

that to this arrangement much of the economy and capacity attained are due. They claim that the degree of dryness to which it is desired to bring the wheat can be effectually regulated by a simple adjustment of the drying cone. For the washing vat is claimed a complete elimination of all stones and heavy bodies. This washer, although of construction simple enough to guarantee a fair immunity from stoppages and repairs, is solidly and well built and, in proportion to its capacity, occupies very little room. It should be added that the step on which the machine works is placed inside an oil-box, completely isolated from the water and from all wearing parts.

THE London "Miller's" October examination questions included the following: Required the smallest safe angles, for straight-bottomed well planed spouting, for wheat, bran, flour, soft dunst and light tailings. If there were bends in the spout, or the material ran in the corners, would it make any difference? If so, what? What fall would be saved by lining the bottom of the spouts with tin, on the same class of stuff? The reply by "Prize Medalist" is as follows:

For wheat the fall should be equal to 25 to 30 degs. from the horizontal.				
" bran " " "	34	"	40	"
" flour " " "	46	"	50	"
" soft dunst " " "	45	"		"
" light tailings " " "	40	"	45	"

Bends in spouts tend to hinder the flow of the stock, whatever it may be, and an addition of five degrees fall should be given on this account. If the material runs in the corner instead of on the plane surface, that will also lead to slower travel; five degrees extra should be given. Experiments prove that spouts neatly lined with polished tin will run nearly all kinds of mill-stuff at lower angles than will planed wood. The saving varies from five to ten degrees, being greatest for wheat, semolina and bran, and least for soft dunst or flour. The latter runs nearly as well on smooth wood as on tin.

ANOTHER reply, by "Prizeman," was as follows: Safe angles for straight-bottomed well-planed spouting: For wheat 30 degs.; flour, 45 degs. to 50 degs.; bran, 45 degs.; soft dunst, &c., 40 degs. to 45 degs. If there were bends in the spouts, I should make them of 5 degs. all round greater angle, as they would not run so well. Again, about 5 degs. angle would be saved from those given if all lined with tin, except, perhaps, in case of flour and fine dunst, when I think they are not improved by tin unless the products named are quite free from moisture.

WORKING THE RUSSIAN WHEAT BUGABOO.

United States Consul Herman, stationed at Odessa, Russia, yanks the strings and works the Russian wheat bugaboo, in a recent report, as follows: "The condition of the Russian grain trade is such as to cause the future of our farming population much anxiety. The quantity and quality of all Russian cereals have made rapid advance during the past five years. Wheat occupies the first place in the list of exports, one-half of the total quantity falling under this head. The wheat crop of 1888 was enormous in quantity and of fair quality. The total shipment of wheat for 1887 from this port was 20,179,566 bushels and for 1888 it was 34,391,933 bushels. These figures will give an idea of the magnitude of the future of the Russian grain trade and will prepare other countries for the augmentation of Russian exports. Southern Russia is essentially an agricultural region and is but sparsely settled. Labor is cheap and the method of farming is not up to the most advanced standard. Transportation facilities are very poor and for the most part expensive. It is estimated that millions of bushels of grain are lost annually on account of the failure of railways to afford transportation facilities or shelter for grain brought to them for transportation. In many places large tracts of grain were left to rot down or fed to cattle. This condition of things, as might be anticipated, caused landed proprietors to turn their attention to the advantages to be derived from an increased use of agricultural machinery. The past year

was a favorable one for the exporters of these implements, and the entire stock of binders and harvesters, many of which had been on hand for years, was easily disposed of. The American harvesters, binders and mowers are well known here and enjoy almost a monopoly of the trade in these machines. Great progress has been made during recent years in turning out native-made agricultural machines. There are two firms in Odessa which manufacture an average of 15,000 plows a year. Horse threshing-machines are also turned out in large quantities, but a large trade is also carried on in these machines with Germany. The general use of agricultural machinery, such as harvesters and binders, can not be anticipated while the prevailing rate of human labor continues at its present low figure. The high prices of last year were exceptional, and 75 cents a day during harvest is considered high wages."

Like most other wheat bugaboos, the Russian bugaboo is lame. Admitting all that may be justly claimed for the capabilities of Russia, it yet remains true that, in order to make those capabilities felt abroad, Russia must spend hundreds of millions of dollars in building railroads and furnishing adequate transportation facilities. The peasantry can not furnish the money. The government will not furnish it, even if it be able to do so. The increase in Russian wheat exportation in 1888 was due to two causes that may not occur again in a century, an abundant crop in Russia and a short crop in other countries. The present season is reversing the figures and conditions. The political and social conditions in Russia are extremely unfavorable to the rapid development of the agricultural resources of the empire, and the millers and wheat-growers of other countries need not worry over the prospect of a sudden awakening of the Russian giant. The "future" of American wheat-growers is assured, in any event, because, at our present rate of growth another score of years will see this country occupied by enough men and women to consume every bushel of wheat grown in the United States.

HIGH-SPEED ENGINES IN MILLS.

Following is an interesting statement concerning high-speed engines in flouring-mills made by the Westinghouse Machine Company, of Pittsburgh, Pa.: It is said that millers, like doctors, differ materially in their opinions on many subjects; but until comparatively recent years a remarkable unanimity of opinion has existed regarding the use of slow-running engines in grist-mills. Some restless spirits (those men to whom the world is indebted for all improvements and all progress) have recently been making experiments, and these experiments demonstrate that high-speed engines (at least those of the Westinghouse type) are very good and very economical engines for use in the manufacture of flour. It has also been demonstrated that with these engines flour may be manufactured on a small scale with reasonable economy and in competition with the great establishments which, by reason of their magnitude, have enjoyed a monopoly of these economies to be derived from compounding and condensing. We recently referred to the case of W. B. Warrington and Co. of Pender, Neb., who are using a 35 h. p. Westinghouse engine, with hay as fuel, and are making a barrel of flour at a fuel cost of 4½ cents. Similar reports are received from St. Paul, where a high-speed engine is used with wood as fuel. Reports also come from Mr. J. W. Gilbert, of Owensboro, Ky., who uses a 50 h. p. high-speed engine in the milling business with the most satisfactory results, and who says, "the fast speed seems perfectly adapted to it (the business), as it (the engine) runs smoothly and almost without a tremor, so to speak." A most important experiment will soon be made in the flour-making center of the great Northwest, which it is confidently predicted will explode a number of old moss-covered theories in this connection. In the experiment referred to it is intended to use Westinghouse Automatic Compound Engines, and actual results will be recorded for a sufficient period effectually to set at rest all quibblings. The experiment will be watched with interest, as it is believed the same relative economies can be secured in the manufacture of a barrel of flour that

have already been demonstrated in electric lighting and in other lines of trade by the use of the same engines.

CHICAGO RIVER AND ITS ELEVATORS.

Says the Chicago "Inter-Ocean": Of the three main divisions of the Chicago River, the South Branch is the most important. The South Branch begins at "the forks" below Wells street bridge and runs in a line due south as far as Twelfth, where its zig-zag, serpentine course begins. From this point on to its ostensible source the creek is winding and irregular until the junction of the canal is reached. Here the waters divide, one branch running west and the other continuing to the south. The South Branch is not a sylvan stream, either. It has been asserted, and on reasonably good authority, that so thick a coating of scum and refuse matter has gathered on the surface of the south fork near the Stock Yards that a fully developed cat crossed the stream without getting its feet wet. There are many stories extant at the expense of the southerly portion of the south fork, but little stock is taken in any of them. One of these went so far as to depict a somnambulist walking on the surface of the water. Another is to the effect that the only attempt at suicide ever attempted down there was thwarted by the solidity of the surface coating. This story is supplemented by another equally tough. A sailor is reported to have fallen from aloft, a distance of eighty feet, over the side into the river. When dragged aboard it was found that his leg had been broken above the knee by the resistance offered to his fall as he struck the water. The elevators of Chicago, by long odds the most extensive in the country, are valued at \$10,000,000, giving employment to 600 men. Below will be found a list of the elevators on the Chicago river, together with their capacities, 65 per cent. of which are on the South Branch:

	Capacities.
Illinois Central, "A".....	1,000,000
Illinois Central, "B".....	1,500,000
Chicago, Burlington & Quincy, "A".....	1,250,000
Chicago, Burlington & Quincy, "B".....	800,000
Chicago, Burlington & Quincy, "C".....	1,500,000
Chicago, Burlington & Quincy, "D".....	1,800,000
Chicago, Burlington & Quincy, "E".....	1,000,000
Rock Island, "A".....	1,500,000
Rock Island, "B".....	1,100,000
Galena.....	700,000
Air Line.....	700,000
Northwestern.....	500,000
City.....	800,000
Iowa.....	1,500,000
St. Paul.....	800,000
Illinois River.....	175,000
Chicago and St. Louis.....	1,000,000
National.....	1,000,000
Armour.....	2,500,000
Santa Fe.....	1,500,000
Wabash.....	1,500,000
Indiana.....	1,500,000
Neeley.....	600,000
C. and D.....	350,000
Pacific, "A" and "B".....	1,500,000
Seaverns.....	900,000
Hess.....	250,000
Weiss.....	300,000
Grand total.....	31,025,000

In round numbers, there are invested on the Chicago river \$78,000,000, of which two-thirds are on the South Branch. There are 23,782 men employed, upon whom 55,000 persons are dependent. The wages paid per day during 240 days of river traffic foot up \$52,306, or a total paid for wages alone in the 250 days of \$12,553,440. The Chicago river is a thrifty institution. In appearance it is about as ornery and miserable looking a creek as one could find in a search of the globe. For all this, however, its bread-winning qualities atone a thousand-fold.

YANKEE MIT ON YANKEE CORN.

The man who cuts the corn is an operator in stalks.—*Washington Capital*. Corn is an emblem of peace, but it is never appreciated until it gets on its ear.—*Binghamton Re-*

publican. The crops of the country have been very good this year, but they shrink into insignificance when compared with the enormous yield of crop statistics.—*Chicago News*. Corn is selling away down, but the philanthropic whisky trust will see to it that the poor man doesn't make a beast of himself on cheap "red eye."—*Chicago Journal*. A Chicago paper says the danger line is passed as regards the corn crop. Not at all. The danger line will only be reached when the corn is manufactured into whisky.—*Texas Siftings*. A corn crop estimated at 2,250,000,000 bushels this year does not quite beat the record, but it will furnish an immense surplus of bacon and corn-bread to feed the hungry people of the world.—*Pittsburg Dispatch*. Mrs Binks (as her husband comes home at 2 A. M.)—O, you brute! You have been drinking again. Binks—'Sh my dear. I've been to a (hic) corn festival. Mrs. Binks—I thought you seemed pretty well corned.—*New York Sun*. If we are not a corn-fed nation this year, it will not be the fault of the crop. It is said that enough of that cereal has been raised this season to give every man, woman and child in the country 35 bushels.—*Bloomington Pantagraph*. The corn crop this season is said to be large enough to give every man, women and child in the United States 35 bushels of corn, but Old Hutch is kindly relieving a great many of these men, women and children of the necessity of looking after their share.—*Chicago Tribune*.

Man: "Where is the cornshop, boy, now say?"

Boy: "Why, there it is, sir, right over the way."

Man: "That's a whiskey saloon, a place I have scorned."

Boy: "Well, that is the shop where my dad gets corned."

—*Goodall's Sun*.

PLAIN STATEMENTS FROM MANITOBA.

Exaggeration and falsification concerning the cereal crops of Manitoba are rebuked severely in the following plain letter from Winnipeg to the "Electrical, Mechanical and Milling News" of Toronto: "Threshing is pretty well over in Manitoba, and the returns from the threshers prove conclusively that the Government figures of the estimated yield of wheat for the province are away above the mark. Last month I stated that reliable advices pointed to a total yield of wheat of fully 2,000,000 bushels under the official estimate. It is now evident that even with this discount from the Government returns the figures are still too high. About 6,000,000 bushels is now the highest estimate that can be given of the probable surplus wheat crop of Manitoba, and this in the opinion of a good many who are well informed is an excessive amount. Those who are best informed place the probable surplus at 4,000,000 to 6,000,000 bushels, and the medium between the two extremes will not likely be far astray. Heretofore there has been a disposition in some quarters to 'boom' things here and make everything appear as big as possible. This has led to the sending abroad of false reports frequently regarding the crops. This policy is now beginning to be looked upon here as wrong, and people are beginning to learn that it is best to tell the truth about the country. This policy of making everything appear big has invariably led to the over-estimation of our wheat crop one year after another. I therefore emphasize the statement that 5,000,000 bushels is a liberal allowance for the surplus wheat crop of Manitoba for this year. I see that reports are still being published in eastern papers that Manitoba will have from ten to twelve million bushels of wheat for export this year. Now Manitobans are not entirely responsible for these false statements. Of course our Government report for August made the figures pretty big, though still considerably under these 'boom' estimates we read about; but the Government report has long since been denied. A good many of these 'boom' estimates which are circulated in the east are spread abroad by eastern people on their return from a short visit in the west. For instance, a member of the Dominion Government who was here a short time ago reported on his return to Ottawa that our surplus wheat crop would be ten to twelve million bushels. A report coming from such an authority would be given a good deal of credence, although at the same time it was fully double what any person here at all informed would have given. Manitobans are therefore

not responsible for the sending out of many of these false reports, and the majority of them can be traced to persons who have made a brief visit here and who are not really well informed as to the situation. The coarse grain crops this year are turning out a great deal worse than wheat. In fact oats and barley have been practically a failure. Wheat, which is sown earlier, stood the severe drouth very much better than other grains. As for barley, there is hardly any in the country, and in some sections there will not be a sufficient quantity of oats for local use. At the time of writing, oats are being imported from the state of Minnesota to the south of us. The oats cost from 20 to 22 cents per bushel in Minneapolis, to which must be added 7 cents freight and 10 cents duty, making the cost laid down here about 40 cents per bushel. Oats have also been brought in from Ontario."

A CORN "SQUEEZE" IN CHICAGO.

Chicago may confidently be relied upon to furnish one or more big grain sensations a year. This year the sensation was in corn, the "November option" being pushed up to "famine prices" on a very abundant crop. Following is the account of the "squeeze" sent out from Chicago on November 29: One of those sudden and unexpected manipulations which are the chief peril of the commission men developed to-day in corn. The November option, which has only a few more hours of life, opened in the morning at 33½ cents and inside of an hour sold at 60 cents, an advance of 26 cents a bushel. The close was nominally at 55 cents, but in fact the shorts were bidding 60 cents in settlement. The corner was so suddenly developed as to bewilder the entire trade. It seemed extraordinary that the price, in the face of a big crop, should be put up to a famine figure. The circumstances which created the most gossip on the floor was that Hutchinson, the arch manipulator and cornerer of the trade, is undoubtedly this time on the outside. It is said on good authority that the old gentleman is short 2,500,000 bushels at about 33 cents. Another circumstance which greatly pleases the trade is that John Cudahy, a popular trader who was caught and squeezed by Hutchinson in the wheat corner of September, 1888, is the man behind the present manipulation and is having the pleasure of making it warm for his old enemy.

But if this corner had none of these interesting features it would be remarkable still for the secrecy and skill with which it has been engineered. It is plain that it has been "on" for a month. There was a little comment excited on Wednesday by the operations of Boyden & Co., but at the opening this morning there was very little apprehension, the price, 33½ cents, indicating no very general anxiety. The whole thing developed almost in an instant. Shorts had come down in a comfortable frame of mind. Within thirty minutes of the opening they discovered that there was no corn for sale. Boyden & Co. kept bidding ahead of everybody and gobbling up all the offerings. Hutchinson was one of the first to take alarm. He went into the cash-lot crowd and tried to get the current receipts. Boyden & Co. and Norton and Worthington were there, however, to compete with him. Finally, seeing that it was useless to try to cover the pit, Hutchinson, evidently for the purpose of getting as much corn as possible here to-morrow, bid 61 cents for cash. This bid, of course, was telegraphed everywhere and had the effect of bestirring thousands of corn shippers and corn cribbers. It remains to be seen how much cash corn can be hurried into this market on about 20 hours' notice to catch an extraordinary price. It is expected that about 560 car loads will be inspected in the morning. Of these possibly 250 cars, about 100,000 bushels, will be deliverable on contracts. It will probably turn out that hundreds of cars, started to-day because of the tremendous advance in price, will reach here just a little too late. The deliveries must be made before 1½ o'clock Saturday. Corn that gets in here in the morning after 9 o'clock will probably be too late and will have to be delivered on contracts for December, and will certainly bring 25 cents, and possibly, if the squeeze continues to-morrow, 50 cents less a bushel than corn which arrives a few hours earlier. One commission firm had a customer

short with a profit this morning of \$7,000. The advance was so sudden that his line could not be covered until the profit had all disappeared and almost as much more. One big trader is said to be a heavy loser on a "call" sold good for the month of November at 34 cents. Up to to-night he had sustained a loss of nearly \$100,000, with his shorts still unsettled. The other options were not at all disturbed by this unusual flurry in November. May kept within ¼ cent range during the session. On Saturday the prices sank from 60 to 45 cents, and those "inside" were jubilantly counting their gains, while those "outside" were disconsolately and dazedly checking off their losses.

A CHICAGO dispatch dated November 27 says: Judge Tuley rendered a decision in the case of Henry Curtis against A. M. Wright & Co., which will interest both speculators and commission men doing business on the Board of Trade. Curtis employed the commission men as his agents and lost heavily. Wright & Co. sued him for \$4,000 for margins overdue, and he retaliated with a bill in chancery, claiming \$3,500 and asking an accounting. A temporary injunction was granted staying proceedings in the lawsuit, and the matter came before Judge Tuley on a motion to dissolve the injunction. Curtis set forth in his bill that he advanced the commission men several thousand dollars, that they agreed to inform him when his margins were exhausted and to act entirely under his instructions as to closing out sales. He claimed that they did not keep this agreement, gave him bad advice and neglected to obey his orders. Judge Tuley said that both sides had entered into a contract for gambling on the Board of Trade, in violation of the State law, and Curtis could have no relief in a court of equity.

The December *Century* opens with a series of unpublished letters written by the Duke of Wellington, in his very last days, to a young married lady of England. Besides pictures of the Duke's residences, etc., there are three portraits of Wellington; the imposing full-length picture by Sir Thomas Lawrence being used as a frontispiece. The "personal interest" is very strongly continued in Joseph Jefferson's autobiography, which this month covers wide ground and goes into the most amusing details concerning "barn-storming in Mississippi," an interesting character called Pudding Stanley, Jefferson's Mexico experiences (just after the Mexican War), his reminiscences of the Wallacks, John E. Owens, Burton, etc. Mr. Charles Barnard's illustrated article on "The New Croton Aqueduct" is the first full account of that marvelous and unique engineering work. The Rev. W. E. Griffis, the well-known authority on Japan, writes of "Nature and People" in that fascinating island. The two celebrated French painters, Alfred Stevens and Gervex, give pictures of their "Paris Panorama of the Nineteenth Century." Professor Fisher begins his striking papers in this number on "The Nature and Method of Revelation," taking up at once the subject of "Revelation and the Bible." In fiction we have Mrs. Barr's new novel, "Friend Olivia," Mr. Stockton's "The Merry Chanter," Hopkinson Smith's heroic story of "Captain Joe," founded on fact; and "The Taming of Tarias," by a new writer. Besides the Christmas and other poetry of this number, Mr. Stedman has a poem inspired by Fortuny's famous "Spanish Lady," and accompanied by an engraving of the picture. The chapters of the Lincoln Life deal with the fall of Richmond and Lincoln's visit to the abandoned capitol. Mrs. Van Rensselaer gives briefly her impression of the French Exhibition; and the editorial pages come to the defense of civil service reform.

SPECIAL NOTICES.

BOLTING CLOTH.

Do not order your cloth until you have conferred with us. It will pay you, both in point of quality and price. We are prepared with special facilities for this work. Write us before you order.

CASE MANUFACTURING CO.

Columbus, Ohio.

Office and Factory, 5th Street, north of Naughten.

TOLEDO MILL PICKS AND STONE TOOL MFG. CO.

Manufacturer

and Dresser of

MILL PICKS.

Made of the best double-refined English cast steel. All work guaranteed. For terms and warranty, address, GEO. W. HEARTLEY, No. 297 St. Clair Street, Toledo, Ohio. Send for Circular.

N. B.—All Mill Picks ground and ready for use (both old and new) before leaving the shop. No time and money lost grinding rough and newly dressed Picks. All come to hand ready for use.

ALSO MANUFACTURERS OF

Shafting, Pulleys, Hangers, Coupling, Machine and Jobbing, Etc., Etc.



TO REMOVE PAINT FROM PAINTED SURFACES.—Four pounds of Irish moss, 3 pounds of methylated spirit and 3 pounds of fuller's earth are mixed with 30 pounds of water, the whole boiled, and a solution of 16 pounds of caustic soda and 16 pounds of caustic potash dissolved in 28 pounds of water added, after which the product is stirred until it is cold and has solidified to a brownish gelatinous mass. The proportions of the ingredients may be varied. The compound is used by applying it to the painted surface with a brush, allowing it to remain thus for 20 minutes to one hour, and then washing it off together with the paint that has been disintegrated by its action.

GENERAL NOTES.

THE registered state militia of the United States is 99,201. The number of men available for military duty in case of war is 8,331,227.

IN new Mexico there are 25,000,000 acres and in California 20,000,000 irrigable, all certain to be magnificently fertile if they are irrigated.

CONTEMPORARY COMMENT.

Very little No. 1 hard ever goes out of the country mixed or pure. Our home millers know its value and pay much more for it than the British miller will, so the most of it is ground into flour at home. British millers who are willing to pay what it is worth can get it, and they are doing this very thing. For some time an agent representing the British millers has been at Duluth buying wheat for them.—*Chicago "American Elevator."*

Our true friend of THE MILLING WORLD is satirical on those who indulge in grain statistics. He says: "The government estimate of the American wheat crop of 1889 is 495,000,000 bushels, that one expert, who has been traveling over the wheat sections, estimates it at 535,000,000 bushels, and that a second expert, who is pronounced infallible and incorruptible, going over the same sections, has found a crop of 585,000,000 bushels." We would suggest that our contemporary consider that two of these estimates include last year's reserve, while the first considered only the estimated production of 1889. All three come close enough together to fortify each other and to suggest that our friend should not be too funny, especially as his paper deals overmuch in statistics.—*Indianapolis "Millstone."* By no means can we accept the suggestion. The estimates quoted were made on the yield of 1889, and the totals made no reference, either direct or implied, to the reserves from last year's crops. The three estimates "fortify" one another about as much as Gibraltar fortifies the North Pole, or as Fort Columbus fortifies the equator.

The extraordinary wheat receipts of the Northwest during the last two months have astonished, in amount, those who were most familiar with the situation. Arrivals at Minneapolis and Duluth, counting from Aug. 1, amount to 31,169,929 bushels.—*Minneapolis "Market Record."*

THE CORN LAWS OF ENGLAND.

Following is a brief summation of the famous Corn Laws of England, abolished many years ago: The name Corn Law was given to the various acts of the English Parliament regulating the trade in grain, especially wheat. Two different objects were sought through these laws, which have taken different forms at different times, the securing of a plentiful supply of cheap grain at home, and the keeping up of the price of the grain raised in England. Till the reign

of Elizabeth the importation of grain was practically free, though laws had been passed, during the reign of Henry VI, absolutely prohibiting the importation of grain. On the accession of William III a new system was adopted. In the supposed interest of agriculture and land-owners the exportation of grain was not only permitted, but encouraged by bounties. It was thought that this plan would raise the price of grain, but it failed to do so. In the latter part of the eighteenth century the commerce and manufactures of the kingdom were largely increased, and as the grain raised at home did not equal the amount needed for consumption, the duty on imported grain was felt as a great hardship. This led to the famous act introduced by Edmund Burke, by which the importation of foreign wheat was permitted at a nominal duty of sixpence per quarter. Whenever the home price was at or above 48 shillings a quarter, a bounty was still allowed on exportation, but the bounty and exportation were both to cease whenever the price fell to 44 shillings. During the years following this act there was not only a large importation of grain but a great increase in that raised at home, results that might be ascribed to several causes.

There was at this time a remarkable stimulation of inventive genius in manufacturing, which tended to draw capital largely into manufactures and made much call for labor in that line also, and the abundant supply of grain at a moderate price made it possible for laborers to be drawn away from the business of agriculture. At the same time the increased growth of the manufacturing population kept up a steady demand for grain and induced farmers to bring into use all their waste land for grain-raising. Unfortunately, farmers were anxious to make more money on their grain, and in 1791 the law of 1773 was repealed and another passed, fixing 54 shillings as the home price limit at which importation might be permitted at sixpence per quarter, but when the price was between 54 and 50 shillings no grain could be imported without paying a duty of 2 shillings and sixpence per quarter, and when the price was below 50 shillings the importation was prohibited. A bounty on exportation was allowed as before until the grain fell to 46 shillings per quarter.

In 1804 another law was passed enacting a prohibitory duty on grain when the price was 63 shillings and below; a duty of 2 shillings and sixpence when it was from 63 to 66 shillings, and above 66 shillings permitted the importation at nominal duty. As the effect of all this legislation was to stimulate speculation in grain and to keep up its price, to the great distress of the masses of the people, many persons began to doubt whether the policy was a wise one. In 1827-28 resolutions were carried through parliament demanding a more liberal policy, but it was not enacted for several years. From 1837 to 1842 the grain crops were very poor in England, and the consequent distress among the people gave rise to an agitation which finally culminated in the abolition of the Corn Laws. In 1843 the principle of the laws was virtually abandoned by permitting the importation of grain from Canada at a very small duty. In 1837 the Anti-Corn Law League had been formed in Manchester, whose leaders were Richard Cobden and John Bright. In February, 1846, a bill was enacted by parliament placing a fixed duty on grain for three years, and then abolishing the duty entirely. There has never been any attempt since that time to revive the Corn Laws in England.

MILLING PATENTS.

Among the patents granted November 26, 1889, are the following:

Albert S. Etzold, Detroit, Mich., No. 415,709, a grain-separator.

Wm. J. Purdy, Carberry, Manitoba, Canada, No. 415,819, bucket-elevator for flouring-mills.

Wm. C. Meadows, Moravian Falls, N. C., No. 415,842, a turbine water-wheel.

George R. Reeves, Grand Rapids, Mich., No. 416,124, a dust-collector.

COMPOUND

Condensing or Non-Condensing.
16 SIZES, 5 to 500 H. P.

Not yet equaled by any form of Engine for
HIGH FUEL DUTY AND SIMPLICITY.

STANDARD

13 Sizes in Stock.
5 to 250 H. P.
3000 in use in all parts of the Civilized World.

JUNIOR

6 Sizes in Stock,
5 to 50 H. P.

An Automatic Engine cheaper than a Slide Valve.
WELL BUILT. ECONOMICAL. RELIABLE.
Over 300 Sold the First Year.

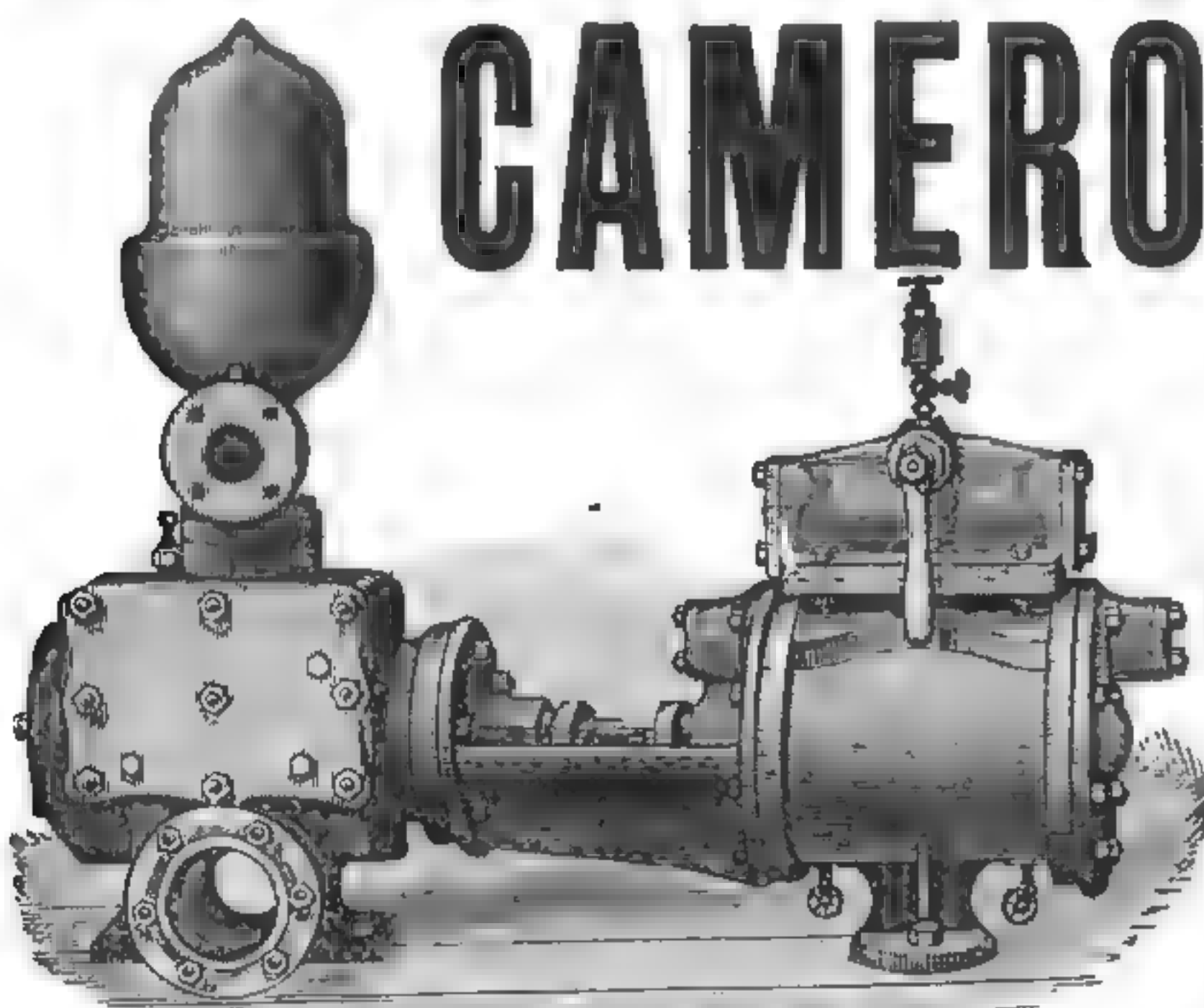
All the above built strictly to Gauge with
INTERCHANGEABLE PARTS.
REPAIRS CARRIED IN STOCK.

SEND FOR ILLUSTRATED CATALOGUES.

**WESTINGHOUSE
ENGINES**
The Westinghouse Machine Co.
PITTSBURGH, PA. U.S.A.

SELLING DEPARTMENT IN THE UNITED STATES.

New York,	17 Cortlandt St.	Westinghouse, Church, Kerr & Co.
Boston,	Hathaway Building,	
Pittsburgh,	Westinghouse Build'g,	
Chicago,	156, 158 Lake St.	
Philadelphia,	608 Chestnut St.	M. R. Muckle, Jr. & Co.
St. Louis,	302, 304 Washington Av.	Fairbanks & Co.
Kansas City,	312 Union Avenue,	
Denver,	1330 Seventeenth St.	
Omaha,	1619 Capitol Avenue,	V. C. Ayer.
Pine Bluffs, Ark.		Geo. M. Dilley & Sons.
Salt Lake City,	259 S. Main St.	Utah & Montana
Butte, Mont.	11 Granite St.	Machinery Co.
San Francisco,	21, 23 Fremont Street,	Parke & Lacy Co.
Portland, Or.	33, 35 N. Front St.	Parke & Lacy Mch. Co.
Charlotte, N. C.	36 College St.	The D. A. Tompkins Co.
Atlanta, Ga.	45 S. Prior St.	
Dallas, Tex.		Keating Imp. & Machine Co.
Chattanooga, Tenn.,		C. E. James & Co.



CAMERON STEAM PUMP

THE STANDARD OF EXCELLENCE.

SIMPLE! COMPACT! DURABLE!

"NO OUTSIDE VALVE GEAR."

Steam, Air & Vacuum Pumps in Every Variety

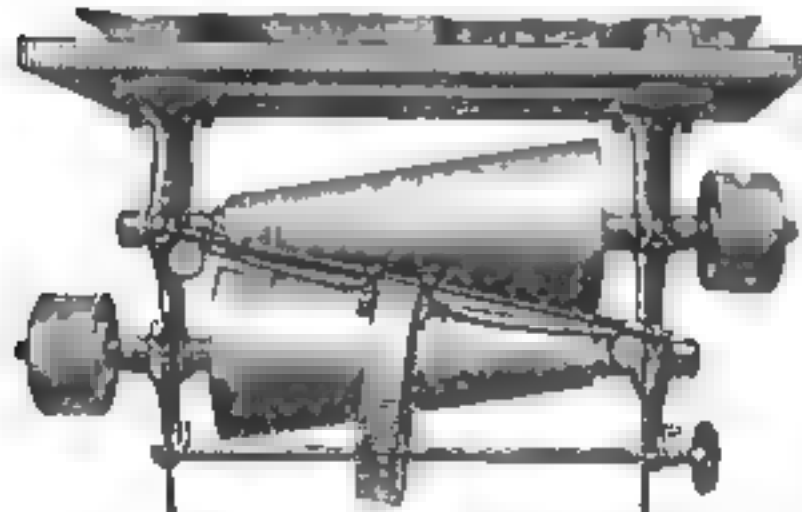
FOR ILLUSTRATED CATALOGUE ADDRESS

THE A.S. CAMERON STEAM PUMP WORKS

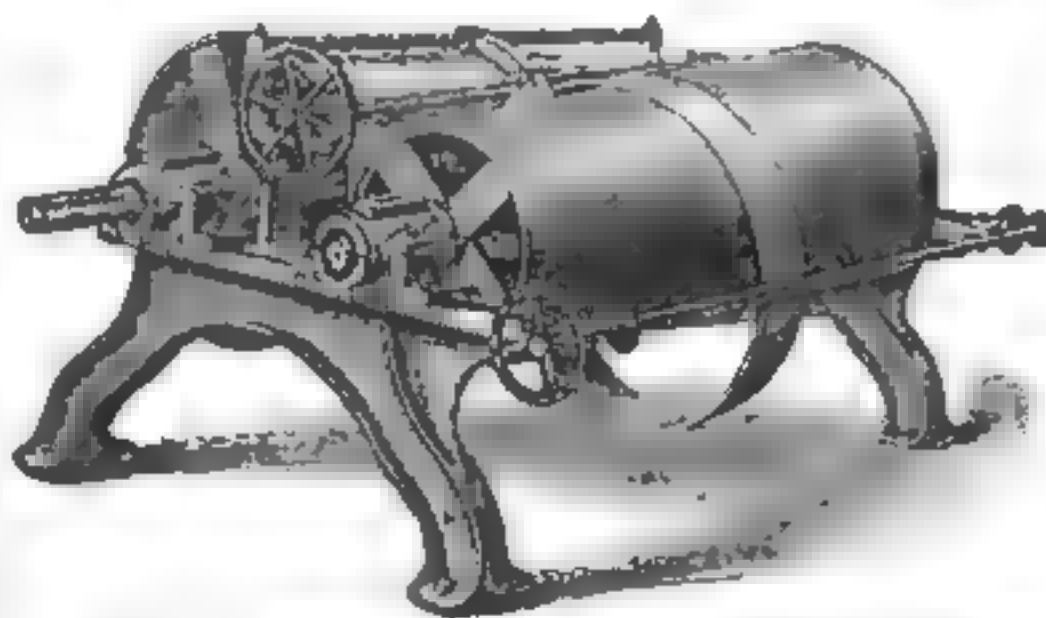
Foot of East 23d Street. - New York.

THE EVANS FRICTION CONE & FRICTIONAL GEARING

"PATENTED."



This cut represents a set of hanging cone pulleys. This pattern is intended for that class of machinery that stops and starts at the same speed, and at the same time be able to change the speed more or less while running. These cones are also fitted with a governor where a steady motion is required and the initial power is



fluctuating. All sizes made from $\frac{1}{4}$ Horse Power to 50 Horse Power. SEND FOR ILLUSTRATED CATALOGUE.

EVANS FRICTION CONE CO., 85 Water St., BOSTON.



SELF-CONTAINED STEAM ENGINES

Stationary or
Semi-Portable.

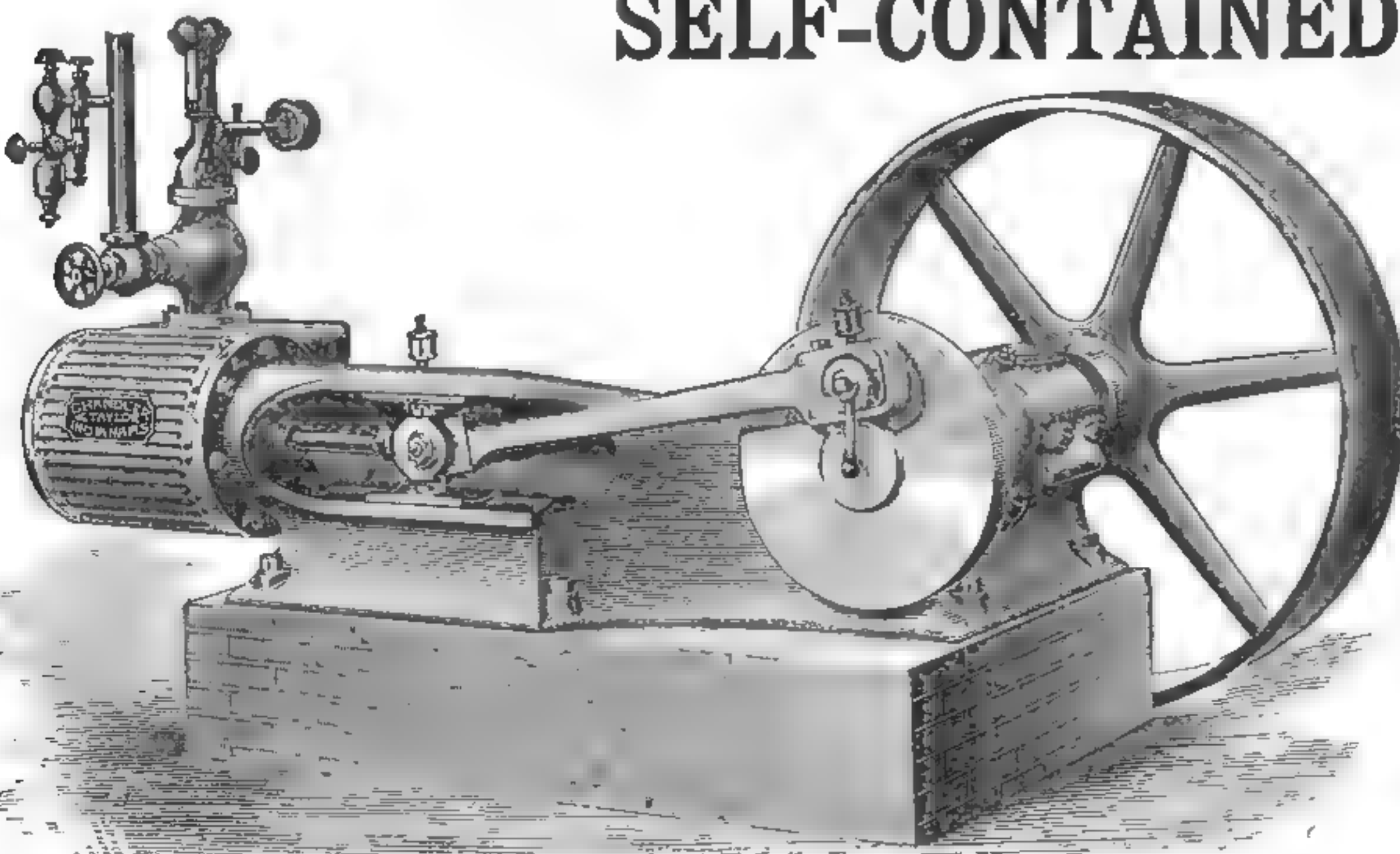
High Standard Maintained.
Prices Greatly Reduced.

WRITE FOR NEW ILLUSTRATED
CATALOGUE NO. 32.

Chandler & Taylor Co.

Indianapolis, Ind.

Engines, Saw-Mills and Drain Tile
Machinery a Specialty.



NOTES & NEWS

D. M. Blavins, Meigs, Tenn., adds rolls.
 Springfield, Tenn., men project a flour-mill.
 H. F. Taylor, Aquilla, Ala., built a grist-mill.
 J. Amos, Henderson, N. C., built a grist-mill.
 J. R. Campbell, Neely, Tenn., builds a grist-mill.
 Mr. Harris, Eagle Cove, Tex., projects a flour-mill.
 The St. Michaels, Md., flour-mill, remodels to rolls.
 John P. Fort, Walker Station, Ga., builds a grist-mill.
 H. S. Hill & Co.'s flouring-mill, Elk Grove, Cal., burned.
 The Birkett Mfg. Co.'s flour-mill, Birkett, Mich., burned.
 H. O. Wylie's grist-mill, New Concord, O., burned; loss \$7,000.
 J. G. Rotlan & Co., Catlettsburg, Ky., enlarged their flour-mill.
 Louis Heffer, Boaz, Ky., is building a 40-barrel roller flouring-mill.
 The Wheelers, Poole's Mill, Ky., build a 75-barrel roller flouring-mill.
 S. Ipe & Co., flour-mill, Cedar Springs, Mich., sold to C. G. Carpenter.
 C. F. Rea, Prairie Plains, Tex., will put in a new grist-mill outfit soon.
 D. A. Sturgis & Co., Sturgis, Ky., will repair their exploded flouring-mill.
 Gregory, High & Co., Difficult, Ky., build a 50-barrel roller flouring-mill.
 The Franklin Co. Farmers' Alliance, Winchester, Tenn., will build a flouring-mill.
 H. Johnson's elevator, Sleeth, Ind., burned with contents; loss \$4,000; insurance \$2,500.
 W. H. Pindell, of Hannibal, Mo., will probably operate the Houston, Tex., flouring-mill.
 G. E. Leak, Franklin, Ky., wants a machinery outfit for a 50 to 75 barrel roller flouring-mill.
 G. A. Taylor's flouring-mill, Safe Harbor, Pa., burned; loss \$12,000; insurance \$9,700; fire incendiary.
 The Union Milling & Mfg. Co., West Point, Ga., will at once rebuild their burned flour and grist mill.
 D. Wilber's flouring-mill, Milford, N. Y., burned with contents; loss \$15,000; no insurance; fire incendiary.
 Kehlor Bros.' flouring-mill, grain-elevator and warehouse, Edwardsville, Ill., burned Nov. 25; loss \$250,000; insurance about \$125,000.
 Mr. Dodds, of the Woodland Mills, Woodland, Mich., proposes to form a stock company to build a 100-barrel roller flouring-mill at Bolivar, Tenn.
 J. M. Still and others, Knoxville, Tenn., have organized the Lonsdale Mill Co., and have bought and will remodel the Champion flour-mill to 100-barrel capacity.
 The engine sales reported by the Westinghouse Machine Company, of Pittsburgh, Pa., have reached high-water mark during the month of October, 1889. They are the largest in the company's history, and are as follows:

35 Junior Engines.....	1,095 Horse Power.
32 Standard Engines.....	1,395 do
43 Compound Engines.....	3,545 do
110 Engines, aggregating.....	6,035 Horse Power.

As there seems to be a mistaken idea in some quarters that the "Friction Covering" for pulleys, which has been placed on the market by the National Pulley Covering Company, of Baltimore, Md., is composed of paper or cloth and is applied in layers, they wish to correct it. Their covering is furnished in one piece enough longer than the circumference of the pulley to make a lap, composed of material whose frictional resistance is greater than anything known and can not wear smooth. Among the recent business of the company have been orders for covers 26 inches wide from New Orleans and 23 inches wide from Bristol, Pa.

No city tax has ever been paid on the Erie Railroad grain-elevator in Jersey City, N. J., on the ground that it is railroad property and exempt from any taxation except the 1 per cent. levied by the State. The Board of Commissioners of Tax Adjustment of Jersey City recently put in a bill for \$160,000 for arrears in taxes on the property. They say they have discovered that the elevator is not owned by the railroad company at all, but by the estate of the late Jesse Hoyt, and that it is now controlled by the estate. Courtlandt Parker, representing the railroad company, applied to Justice Knapp in the Circuit Court in Jersey City for a writ of certiorari, taking the case to the Supreme Court. If the city can prove that the elevator is not owned by the railroad company, it will be \$160,000 richer, and it can collect about \$30,000 a year in taxes from the property hereafter. The railroad company says it owns the property.

BOOKS AND PAMPHLETS.

Every lover of good literature and beautiful engraving will buy the December number of *Scribner's Magazine*. The contents of this superb number are as follows: "Breton Peasants at a Wayside Cross," Frontispiece. From a drawing by Howard Pyle; engraved by Henry Wolf. "How the Other Half Lives"—Studies Among the Tenements, by Jacob A. Riis. "In the Valley"—Chapter XII-XIV, by Harald Frederic. "Mrs. Tom's Spree," by H. C. Bunner. "Evening," by A. Lampman. "Montauk Point"—July-December, by Lloyd McKim Garrison. "The Pardon of Ste. Anne d'Auray"—And Other Breton Pictures, by William Perry Northrup. "Happiness," by Edith Wharton. "A Midwinter Night's Dream," by Henry A. Beers. "Contemporary American Caricature," by J. A. Mitchell. Illustrations from drawing by A. B. Frost, Thomas Nast, C. D. Gibson, W. A. Rogers, F. G. Attwood, S. W. Van Schaick, H. W. McVickar, F. Oppen, C. J. Taylor, Joseph Keppler, M. A. Woolf, "Chip," E. Zimmerman, J. A. Wales, Frank Bellew, E. W. Kemble and J. A. Mitchell. "Notes of a Sub-tropic Study," by Edgar Mayhew Bacon. "At Les Eboulements," by Duncan Campbell Scott. "The Age of Words," by Edward J. Phelps.

"Godey's Lady's Book" for December has filled the bill in being a real Christmas number. A beautiful steel plate illustration, "Baby's First Christmas," is a gem; a handsome colored fashion plate is devoted to the ladies, and a folded colored sheet is designed expressly for the little folks; this is a real work of art. The illustrated story, "The Fires of Yule," by Max Vander Wyde, is well worthy of perusal. "Five Thousand Dollars for a Wife," by the author of "Wedded to Misery," is one of the new serials which certainly opens with much interest. Among the short Xmas stories are "The Story of Agnes," by Mrs. Nora Marble, "Ralph of Ashmead," by Olivia, and "Noddlekin's Christmas Dinner," by T. H. Farnham. Several good poems are interspersed. "A Wheel of Fortune," by Olivia Lovell Wilson, is another serial. "The Children's Corner" is a new feature. "The Beautiful Home Club," by Emma J. Gray, "Fashions," "Work Designs" and illustrations, "Household Department," by Mrs. I. D. Hope, and "Our Arm Chair" complete the last number for 1889, which shows no falling off, but is better than the opening one of the year. Godey Publishing Co., 1226 Arch street, Philadelphia, Pa.

CATARRH.

CATARRHAL DEAFNESS—HAY FEVER.

A NEW HOME TREATMENT.

Sufferers are not generally aware that these diseases are contagious, or that they are due to the presence of living parasites in the lining membrane of the nose and eustachian tubes. Microscopic research, however, has proved this to be a fact, and the result of this discovery is that a simple remedy has been formulated whereby catarrh, catarrhal deafness and hay fever are permanently cured in from one to three simple applications made at home by the patient once in two weeks.

N. B.—This treatment is not a snuff or an ointment; both have been discarded by reputable physicians as injurious. A pamphlet explaining this new treatment is sent free on receipt of stamp to pay postage, by A. H. Dixon & Son, 337 and 339 West King street, Toronto, Canada.—*Christian Advocate*.

Sufferers from Catarrhal troubles should carefully read the above.



W.A. BINGHAM,
 MANUFACTURER OF
FLOUR SACKS.
 178 Duane Street,
 New York.

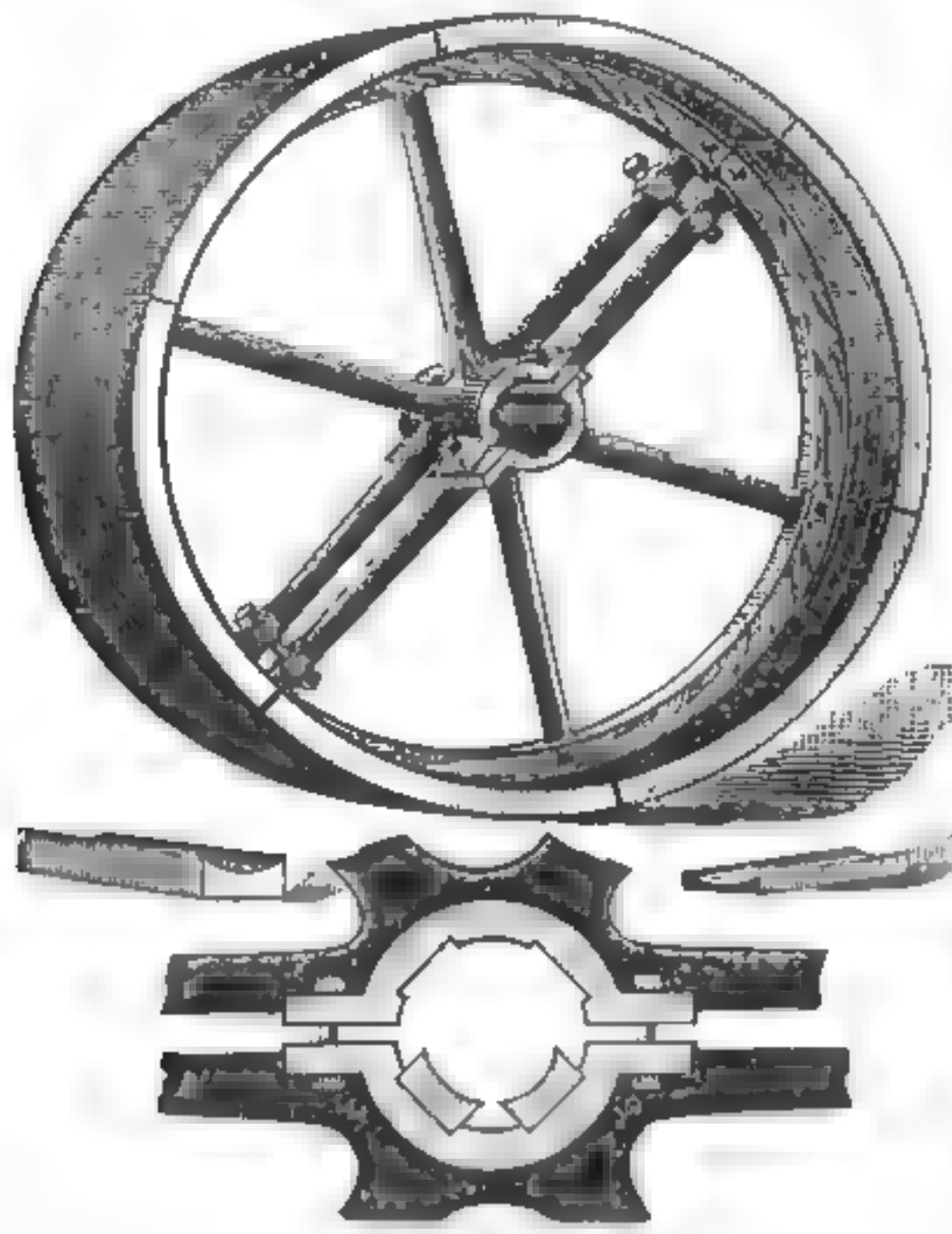


THE BEST ARE THE CHEAPEST.

New York

MILLERS' FLOUR SACKS A SPECIALTY.

THE PATRONAGE of the MILLING TRADE is MOST RESPECTFULLY SOLICITED.



BIRD & CRANE MFG. CO., KALAMAZOO MICH.

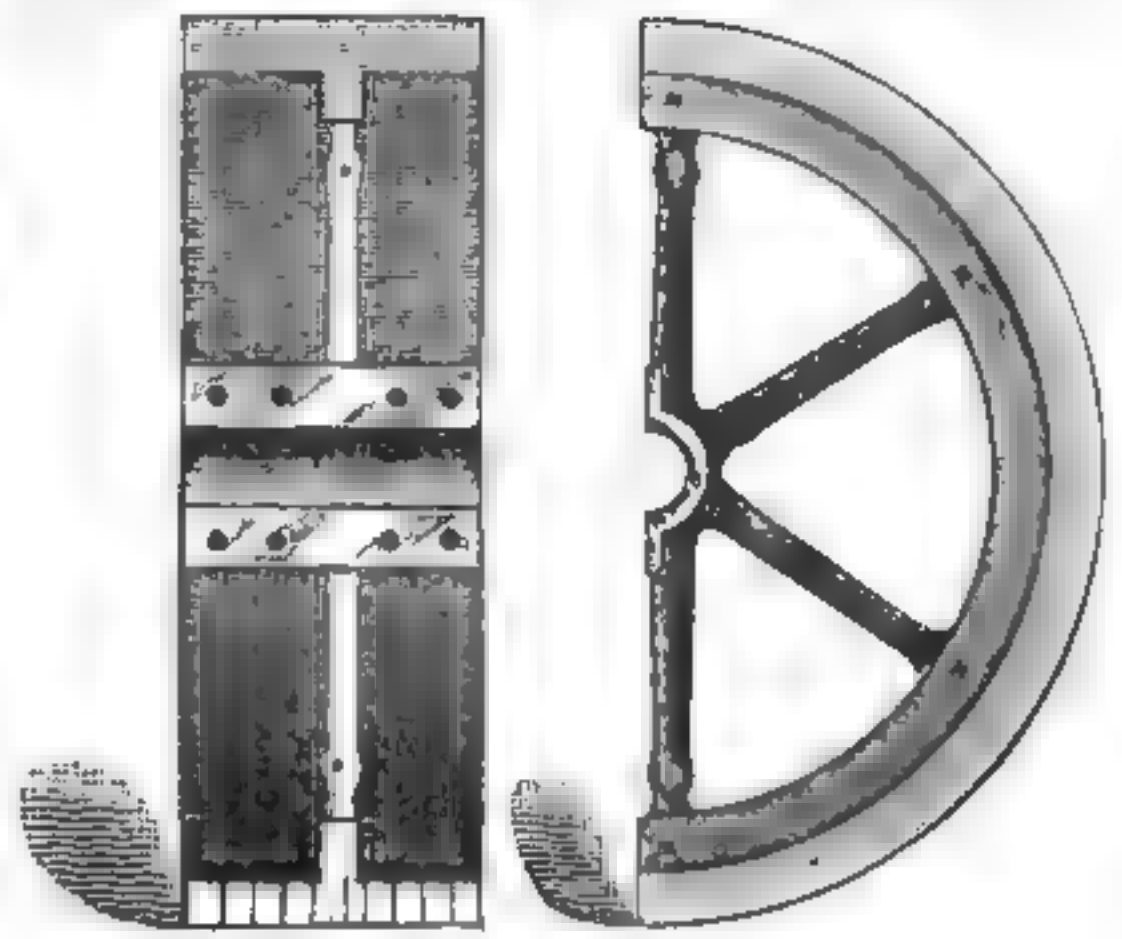
MANUFACTURERS OF PATENT

Wood Split Pulleys

WOOD RIM WITH IRON ARMS.

The Best Pulley on Earth!

Is very easily and quickly adjusted to Shaft. Has Patent Iron Bushings Interchangeable, to Fit Different Diameters of Shafts. Has FOUR or SIX Bearings on Shaft. This fastening never slips. Every Pulley strongly built and perfectly balanced.



SEND FOR CATALOGUE AND PRICE LIST.

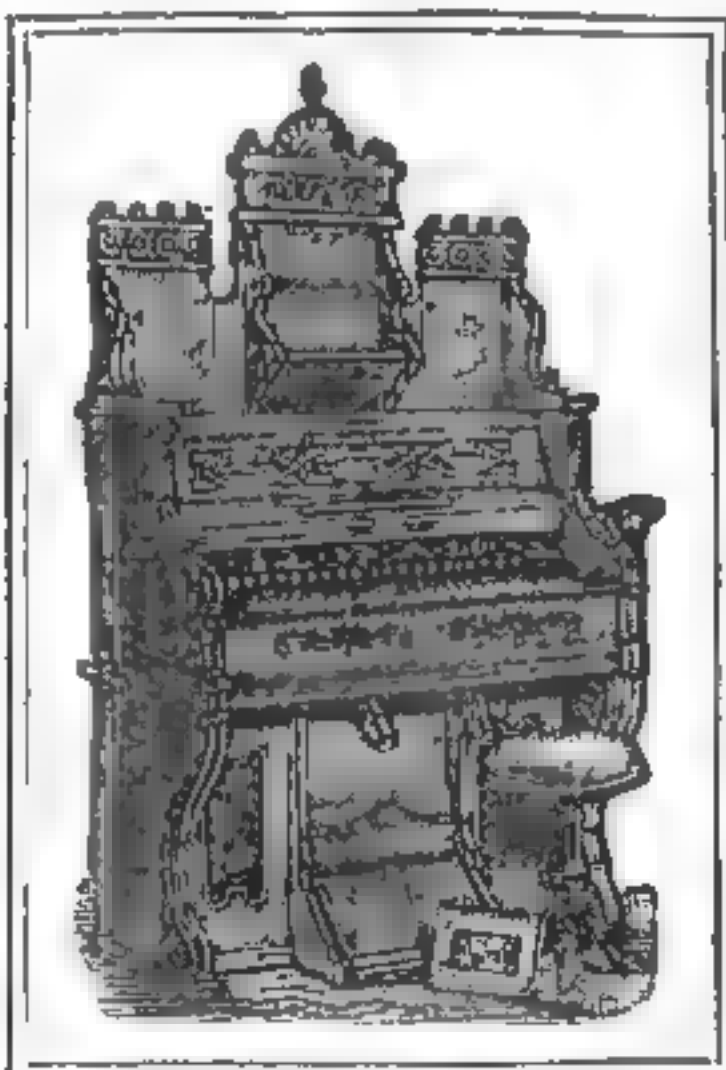


N. BUSSENDORFFER.

The BEST PIANOS and ORGANS IN THE WORLD

Are manufactured and sold for the least money by

THE BEST ARE THE CHEAPEST.



Write us for Illustrated Catalogue, Free.

BEETHOVEN
PIANO ORGAN CO.
WASHINGTON, WARREN CO. N.J.

MENTION THIS PAPER.

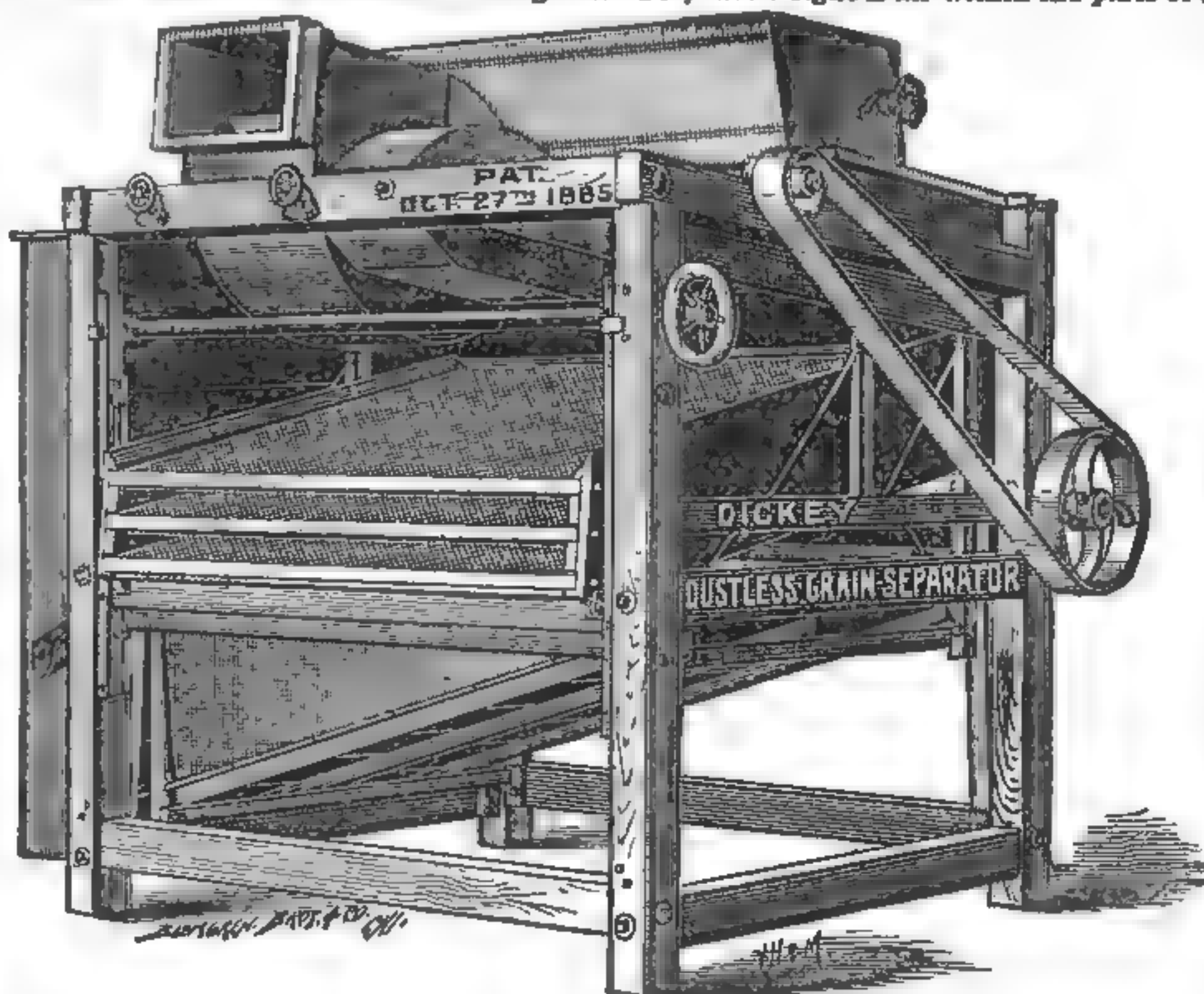
THE INK
WITH WHICH THIS PAPER IS PRINTED
IS MADE BY THE
QUEEN CITY PRINTING INK CO.
CINCINNATI, O.

The Cincinnati Corrugating Co.

DICKEY DUSTLESS GRAIN AND FLAX SEPARATOR

This Separator is our latest and most perfect, and guaranteed to be the superior of any now on the market. This machine, as can be seen by the cut, is not a warehouse fanning mill with one patent attachment, but is Dustless Separator, made for the express purpose of thoroughly cleaning and separating all kinds of grain in large quantities; its construction is such that the working machinery and weight is all within the parts or anchors.

WE CLAIM FOR IT SUPERIORITY.



WE CLAIM FOR IT SUPERIORITY.

We claim for it Superiority over everything of the kind made, in simpleness, durability, saving of power, capacity and cost of construction. Its height will accommodate any number of spouts from different points, without moving machine. They have a capacity from 700 to 1,500 bushels per hour. We also control exclusively the manufacture of the celebrated Dickey Giant, End and Side Shake, Warehouse Mills, that have attained such a world-wide reputation. Sent on approval to any reliable party. For full particulars address,

A. P. DICKEY MANUFACTURING CO. Successors to Dickey & Pease, **RACINE, WIS.**

EUROPEAN ECHOES.

SAYS the London "Miller" of November 4: The approaching wheat harvest in Australia is now beginning to attract notice. The surplus for the entire Continent is expected to be not less than a million quarters, but merchants show no eagerness whatever to charter in advance. The cost of Australian wheat-growing is said to be only one sixth of what it is in the United Kingdom. It is somewhat difficult to reconcile this intelligence with the news of agricultural laborers earning 8s. per day. The land may be virtually rent-free, but the rent and tithe are by no means the most serious items in an English wheat-grower's bill. Offer the occupier of land on which the rent and tithe are 30s. an acre freedom from those burdens, but at the same time ask him to pay his laborers 48s. a week, instead of 12s. to 15s., and his answer would soon show whether the Australian farmer has all things to his liking. As a matter of fact, the area under wheat in our Australasian Colonies is about a million acres more than in the United Kingdom, while the yield is considerably less than half. There has been no increase in the area under cultivation during the past five or six years, and "Does wheat-growing pay?" Is almost as much a moot point at Melbourne as at Norwich, at Canterbury, New Zealand, as at Canterbury, Kent.

COMMENTING on the sale of the Minneapolis flouring-mill plants to British capitalists, the London "Miller" says: And now it is proposed to transfer to British hands this formidable machinery, which but yesterday was a source of dread to so many British millers. Could the irony of events go much further? With respect to the advantages of the scheme as an investment, it will neither be out of place, nor, under the circumstances, a gratuitous piece of ill-nature, if we ask how it is that this property has come into the British market? Few men will part with an improving business while health and vigor are still left to them, and in this case the mills to be sold are not owned by a solitary miller, but by several individuals. If it were a question of more capital for the development of the business, there was surely no need to come so far as London. The prospectus before us, with a candor that many other such documents might copy, sets out the whole story of the recent earnings of the mills concerned, extenuating nothing and satisfactorily explaining the cause of the losses of 1886. But then balance-sheets are sometimes a treacherous guide for investors, and mere figures often prove nothing or next to nothing. But it is difficult to understand how such a golden apple found its way right across the American continent into the lap of the British investor. We have, indeed, heard of several flies in the Minneapolis amber, such as a diminishing supply of water, a falling-off in the stock of hard wheat, and more than one of Minneapolis's cotemporaries has been lately indulging in speculations as to where the next milling capital of America will be located. Perhaps the best reason for the proposed transfer of these mills, granaries and waterfalls to a British company is to be found in the following remarks of Mr. Pillsbury, before a committee of the United States Senate, which was lately engaged in taking evidence on the present railway relations between the Republic and the Dominion of Canada. Mr. Pillsbury deprecated any measures that might tend to restrict the Minneapolis millers in procuring supplies of wheat from Canada in times of scarcity in Minnesota or Dakota. He said: "It is a matter of life and death with us. We have more or less fear all the time of all the Canadian roads going into a combination. Chicago is ever fighting to rob us of our advantages. The independence of the Soo road and its connections is our only salvation, and for the same reason we take a great interest in river and harbor appropriations for the Sault Ste. Marie Canal." Without pausing to inquire whether "independence" may not in this case spell "dependence on Minneapolis," it is clear that the flour-milling interest of that town is, for some reason or other, not at ease; and this uneasiness may possibly account for the "Washburn-Pillsbury" scheme now placed before the British public.

UNDER the caption "Reckless Promotion" the London, England, "Financial Times" of November 4 says: The Trustees, Executors and Securities Insurance Corporation are anxious to secure another modest £900,000 out of the pockets of English investors. They have, doubtless, already got it guaranteed by the same "trust" companies. The public can please itself as to whether the prospects held out in the prospectus are sufficiently good for them to take a hand in the deal and will doubtless observe the dwindling annual profit. Investors might not, however, notice the last paragraph of Mr. B. R. de Young's report, which says: "Notwithstanding these shortages of crops in 1888, had the present owners pursued the policy above stated of buying grain and keeping the elevators as full as possible, their net profits in that year would have been at the least £400,000." This is a more sweeping condemnation of the mode of capitalization of the Chicago Grain Elevator Company than anything we can say and gives in a few words the cause of the falling off of the profits during the past few years, which has clearly been lack of capital. At one time farmers were content to send their grain to the terminal elevators and, having sold it to grain operators for future delivery, keep it there and pay storage for it till the time of delivery came. That is changed now. The farmers find it better to sell their grain outright and get the money, thus closing the transaction, instead of storing the produce in elevators, borrowing on warehouse receipts and keeping a responsibility for delivery. No business is safer or surer of good profits than the elevator business, if properly conducted, and the only way properly to conduct it is for the elevator proprietors to buy the grain from the farmer at a price sufficiently below market quotations to allow for freight handling and profit, and to sell at once, either for cash or for future delivery, on a margin. In either case the storage profit is secured. To work on this system, sufficient money to fill the elevators is necessary. The City of Chicago Grain Elevator Company has accommodation for 6,500,000 bushels, which at 75 cents per bushel amounts to \$4,875,000 or, £1,000,000. Of this amount the banks would probably advance on the grain certificate three-fourths, leaving £250,000 which the company should provide in order to follow the very good advice which Mr. Young offers them and which they print with the prospectus. With £50,000 the company is quite unable to command any storage in bad seasons and is entirely at the mercy of the farmer or the grain dealer for any profits it may make. If the Trustees, Executors and Securities Insurance Corporation had enlarged the working capital by a portion of the amount, which is doubtless provided for their behoof in the hidden agreement between themselves and Mr. Charles Wesley Wells, they would have given the public a run for their money. As it is, they have only relieved vendors of properties which they evidently had not capital to work to their full profit-bearing capacity, and landed a profit for themselves. To the public they offer a property on which, with the meager working capital, the new proprietors are unlikely to make as much as the former owners, who, at any rate, had experience of the business. This is only another instance of the reckless way in which the Trustees, Executors and Securities Corporation do their business. The name of Pollock is prominent on prospectus.

A NEW METHOD OF TREATING DISEASE.

HOSPITAL REMEDIES.

What are they? There is a new departure in the treatment of disease. It consists in the collection of the specifics used by noted specialists of Europe and America, and bringing them within the reach of all. For instance the treatment pursued by special physicians who treat indigestion, stomach and liver troubles only, was obtained and prepared. The treatment of other physicians, celebrated for curing catarrh was procured, and so on till these incomparable cures now include disease of the lungs, kidneys, female weakness, rheumatism and nervous debility.

This new method of "one remedy for one disease" must appeal to the common sense of all sufferers, many of whom have experienced the ill effects, and thoroughly realize the absurdity of the claims of Patent Medicines which are guaranteed to cure every ill out of a single bottle, and the use of which, as statistics prove, has ruined more stomachs than alcohol. A circular describing these new remedies is sent free on receipt of stamp to pay postage by Hospital Remedy Company, Toronto, Canada, sole proprietors.

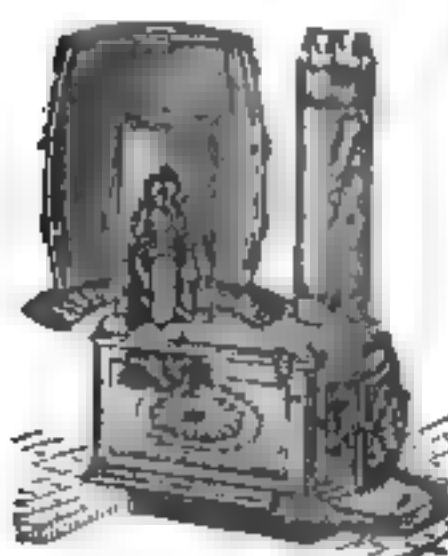
Lloyd & Sterrett

COR. 16TH AND STATE STREETS,
ERIE, - - PENN.

THIS SPACE BELONGS TO
LLOYD & STERRETT
ENGINES AND BOILERS,
ERIE, - - - - PENN.

Lloyd & Sterrett

COR. 16TH AND STATE STS.,
ERIE - - PENN.



**MOORE'S
PATENT
BARREL HEATER.**
For all kinds of coop-
erage. Thousands
in use in all parts of the
U. S. Send for Circular.

JOLIET STOVE WORKS JOLIET ILL.



KEEP YOUR BELTS FROM SLIPPING

And Save Your Power by Using FRICTION COVERING for Pulleys. Agents
Wanted. Satisfaction Guaranteed- Easily Applied. No Rivets. Effective.

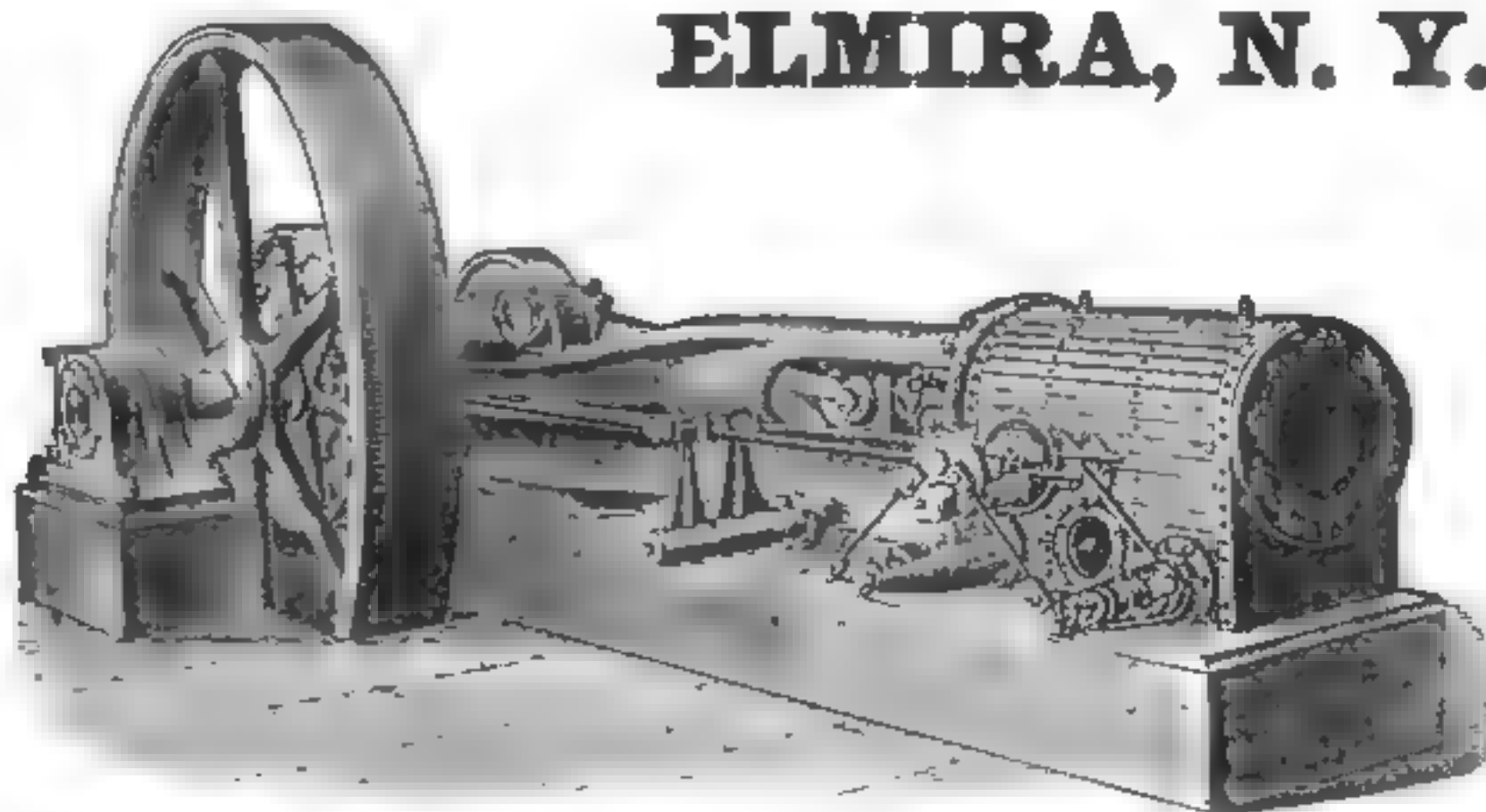
NATIONAL PULLEY COVERING CO., BALTIMORE, MD.

PAYNE HIGH SPEED CORLISS ENGINE

SHAFT GOVERNOR COMBINED WITH CORLISS WRIST-PLATE.
ECONOMY OF FUEL.

REGULATION EQUAL TO ANYTHING IN USE.

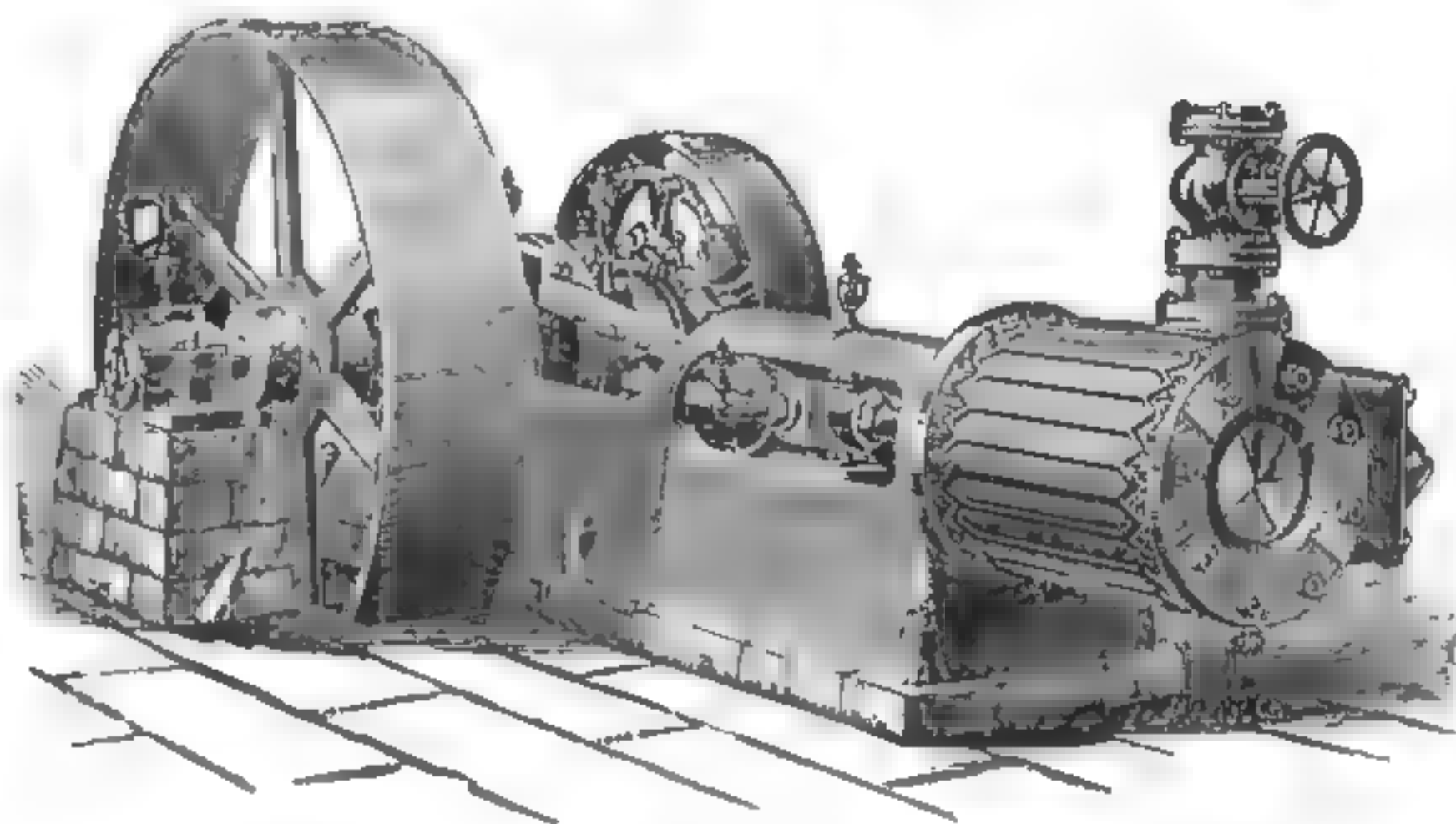
B. W. Payne & Sons,
ELMIRA, N. Y.



10 S. Canal Street,
CHICAGO, ILL.
45 Dey Street,
NEW YORK.
Hill, Clark & Co.
BOSTON, MASS.

AUTOMATIC ENGINES FROM 2 TO 200 HORSE POWER.

Economic Power Plants



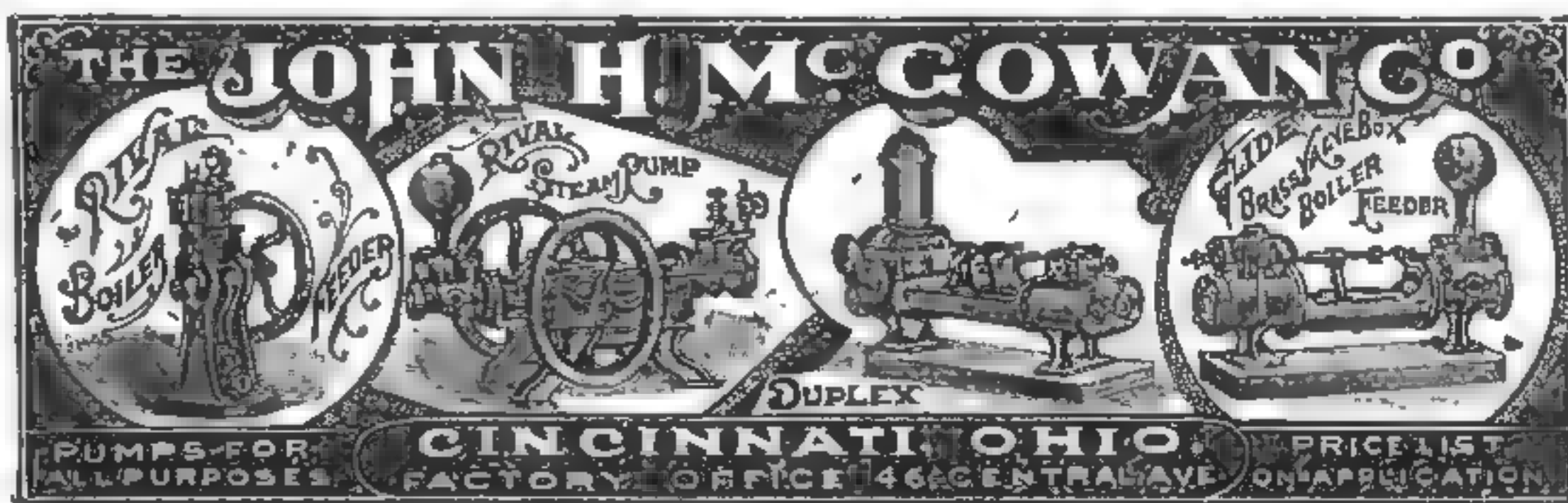
Especially Adapted to Electric Lighting and

WOOD-WORKING ESTABLISHMENTS

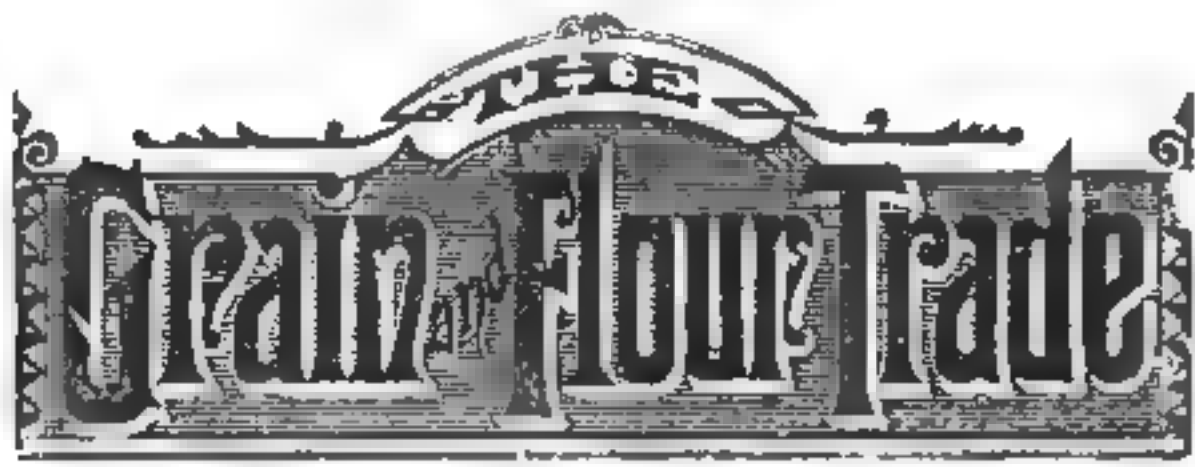
MANUFACTURED BY

VALLEY IRON WORKS, WILLIAMSPORT, PENN.

Please Send for Our New Catalogue and Mention "The Milling World."



BRANCH HOUSE, 1425 EAST MAIN STREET, RICHMOND, VA.



OFFICE OF THE MILLING WORLD,
BUFFALO, N. Y., Nov. 30, 1889.

Friday of last week was a day of large movement and free realizing of longs, resulting in more active and lower markets. In New York November wheat closed at 83½c., with Atlantic port receipts 180,798, exports 16,080, and options 3,500,000 bushels. November corn closed at 41½c., with receipts 189,631, exports 262,711, and options 750,000 bushels. November oats closed at 28½c., with receipts 135,425, exports 25,789, and options 275,000 bushels. Wheat flour was dull and easy, with receipts 32,025 packages, and exports 7,886 sacks and 14,377 barrels. The minor lines were featureless.

Saturday brought a continuation of free movement and long realizing, with easier cables on the break of Friday. November wheat closed at 83½c., with receipts 195,171, exports 33,263, and options 3,000,000 bushels. November corn ruled at 41½c., with receipts 238,000, exports 137,093, and options 450,000 bushels. November oats closed at 28½c., with receipts 89,631, exports 15,291, and options 130,000 bushels. Wheat flour was dull and unchanged, with receipts 44,092 packages, and exports 13,018 sacks and 16,886 barrels. The minor lines were featureless.

On Monday covering by shorts and realizing by longs and switching December deals off to later months made the markets active and irregular. In New York November wheat closed at 83c., with Atlantic port receipts 258,849, exports 6,426, and options 5,160,000 bushels. November corn closed at 41½c., with receipts 198,352, exports 220,534, and options 960,000 bushels. November oats closed at 28½c., with receipts 201,200, exports 14,218, and options 220,000 bushels. Wheat flour was easier to sell on all grades below No. 2, and Nos. 1 and 2 winter and spring were in moderate supply, in good demand and steady. All low grades were in large supply and small demand. The minor lines were all quiet and featureless. The visible supply in the United States and Canada was as follows:

	1889. Nov. 23.	1888. Nov. 24.	1887. Nov. 26.
Wheat.....	30,124,056	35,238,017	39,361,299
Corn.....	6,100,154	6,974,926	6,104,832
Oats.....	5,904,713	7,627,121	6,438,758
Rye.....	1,164,346	1,730,921	325,850
Barley.....	3,141,421	2,062,348	3,683,640

Tuesday brought an end to the December liquidations, and, with buying for a reaction and with lighter receipts in the West, the markets were stronger. In New York November wheat closed at 83½c., with Atlantic port receipts 400,138, exports 15,177, and options 3,250,000 bushels. Interior wheat receipts for Monday and Tuesday footed 1,706,000 bushels. November corn closed at 41½c., with receipts 358,266, exports 33,407, and options 540,000 bushels. November oats closed at 28½c., with receipts 235,989, exports 19,341, and options 450,000 bushels. Wheat flour was stronger, with foreign houses holding off. The lines most improved were springs of various grades. New York receipts were 28,182 sacks and 47,436 barrels, and exports 6,421 barrels. The minor lines were featureless.

The following shows the amount of wheat and flour, together with the amount of corn on passage to United Kingdom, for ports of call or direct ports for the weeks mentioned:

	1889. Nov. 26.	1888. Nov. 27.
Wheat and flour, qrs....	1,780,000	2,467,000
Corn, qrs.....	338,000	147,000

The following shows the amount of wheat and corn on passage to the Continent for the past week and for the same week last year:

	1889. Nov. 26.	1888. Nov. 27.
Wheat, qrs.....	442,000	633,000
Corn, qrs.....	159,000	24,000

	Qrs.
Shipments India wheat to U. K.....	40,060
do do Continent..	15,000

The imports into the United Kingdom for the past week and for the same weeks in previous years were as follows:

	1889. Nov. 26.	1888. Nov. 27.	1887. Nov. 29.
Wheat, qrs.....	302,000	300,000	199,000
Corn, qrs.....	133,000	64,000	107,000
Flour, bbls.....	172,000	159,000	181,000

Wednesday brought irregular markets on free sales and free western movement. November wheat closed at 83½c., with Atlantic port receipts 114,736, exports 43,236, and options 5,500,000 bushels. November corn closed at 41½c., with receipts 168,960, exports 87,281, and options 1,100,000 bushels. November oats ruled at 28½c., with receipts 206,991, exports 10,000, and options 200,000 bushels. Buckwheat grain was 46@48c. for choice and 35c. for poor. Rye grain was 56@57c. for State No. 1 afloat 54½@54¾c. for No. 2 Western afloat, and 50@53c. for ungraded in car-lots. Barley was dull at the following figures: Two-rowed offered at 55c.; six-rowed 59c. asked; Canada at 59@75c. for both extremes; Western 50@70c. Malt was nominally unchanged and neglected as follows: Fair to choice two-rowed 70@75c.; do six-rowed 70@80c.; country-made Canada 75@85c.; city do 80@90c. Mill-feed was low and dull at 55c. for both 40 and 60 pounds, with 60c. the best figure offered for those grades. Rye was 65c. bid and 70c. asked.

Wheat flour was in small trading. Atlantic port receipts included 16,815 sacks and 53,947 barrels, and exports were 5,037 sacks and 3,490 barrels. The quotations were as follows:

SPRING FLOUR.		
	Sacks.	Barrels.
No grade.....	\$1.50@1.60@....
Fine.....	1.80@2.05	1.95@2.20
Superfine.....	2.05@2.30	2.30@2.65
Extra No. 2.....	2.30@2.60	2.55@2.85
Extra No. 1.....	3.00@3.20	3.25@3.75
Clear.....	3.05@3.35	3.40@3.50
Straight.....	3.80@4.20	4.16@4.70
Patent.....	4.60@4.80	4.80@5.20

WINTER FLOUR.		
	Sacks.	Barrels.
No grade.....	\$1.45@1.70@....
Fine.....	1.90@2.20	2.00@2.30
Superfine.....	2.25@2.45	2.25@2.40
Extra No. 2.....	2.40@2.70	2.50@2.80
Extra No. 1.....	2.70@3.70	2.85@3.60
Clear.....	3.25@3.60	3.55@3.85
Straight.....	3.85@3.90	3.95@4.30
Patent.....	4.10@4.30	4.35@4.80

CITY MILLS.		
W. I. grades.....		4.25@4.35
Low grades.....		2.40@2.50
Patents.....		4.90@5.50

Rye flour was dull at \$3.25@3.35. Buckwheat flour was easy and dull at \$1.60@1.85. Corn products were in fair demand. The quotations were as follows: 80@82c for coarse; fine white and yellow, 92@94c; Western and Southern,

78@94c in bags and \$2.50@2.60 in bbls. Brandy-wine and Sagamore, \$2.65.

Thursday was a holiday, and the bulls and bears devoted their attention exclusively to the "Turkey" question.

BUFFALO MARKETS.

WHEAT—The market is very quiet just now. Those who have wheat in store are not anxious to sell, and hold their stock very firmly. No. 1 hard is quoted at 90½c; No. 1 Northern at 87½c; and No. 2 Northern at 84½c; No. 2 red winter can be bought at 84c, and No. 2 white is quoted at 80c, although a little was sold to-day at 79c. CORN—Sales of No. 2 mixed were made at 39½c. It is held at 38½@39½c; the cheaper sort being in elevators across the creek. No. 2 yellow is held at 39½c across the creek and 80c on this side in store. OATS—The market remains very steady, but quiet, at 27½@27¾c for No. 2 white. Some on track was sold at these prices. BARLEY—The market is almost entirely nominal. The range is 55 to 65 cents for Canada. State is 52@55c. Western is quoted at 36@60c. OATMEAL—Akron, \$6 00; Western, \$5 75 per bbl; rolled oats, in cases, 72 lbs, \$3 25. CORNMEAL—Coarse, 80@85c; fine, 85@90c; granulated, \$1.50 per cwt. MILLFEED—City ground coarse winter, \$11.00@11.50 per ton; fine do, \$11.00@11.50; finished winter middlings, \$13 00@14.50; coarse spring do \$11 50@12.00.

1831 THE CULTIVATOR 1890

AND

Country Gentleman

THE BEST OF THE
AGRICULTURAL WEEKLIES

DEVOTED TO

Farm Crops and Processes,

Horticulture and Fruit-Growing,

Live-Stock and Dairying.

While it also includes all minor departments of Rural interest, such as the Poultry Yard, Entomology, Bee-Keeping, Greenhouse and Grape y, Veterinary Replies, Farm Questions and Answers, Fireside Reading, Domestic Economy, and a summary of the News of the Week. Its MARKET REPORTS are unusually complete, and much attention is paid to the Prospects of the Crops, as throwing light upon one of the most important of all questions—When to Buy and When to Sell. It is liberally illustrated, and by RECENT ENLARGEMENT, contains more reading matter than ever before. The Subscription Price is \$2.50 per year but we offer a SPECIAL REDUCTION in our

CLUB RATES FOR 1890!

Two Subscriptions, in one remittance, . . . \$4
Six Subscriptions, in one remittance, . . . 10
Twelve Subscriptions, in one remittance, . . . 18

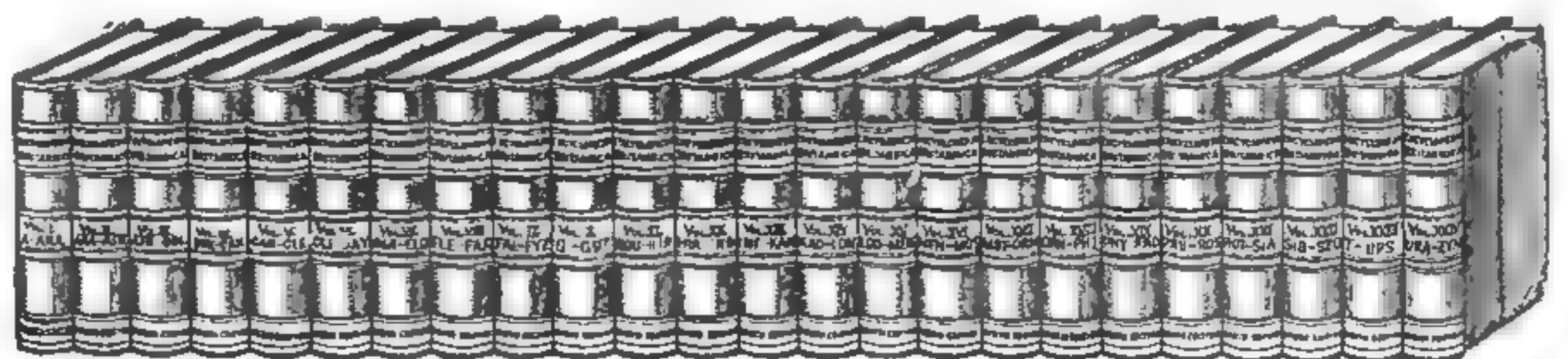
To all New Subscribers for 1890, payable in advance now, WE WILL SEND THE PAPER WEEKLY, from our receipt of the remittance to January 1st, 1890, WITHOUT CHARGE.

SPECIMEN COPIES FREE. Address

LUTHER TUCKER & SON, Publishers
ALBANY, N. Y.

PLEASE mention THE MILLING WORLD when you write to advertisers. It will pay you to do this.

A LITERARY MARVEL,—\$2.50 PER VOLUME,



We publish the Popular Reprint of the **ENCYCLOPÆDIA BRITANNICA** from latest English edition, at \$2.50 per volume, being one-third the price of the original and one-half the price of the Scribner edition of the same work. We have reproduced all illustrations, maps and texts, page for page and volume for volume. Complete sets of 24 vols. now ready for delivery on EASY PAYMENTS. The greatest work of the kind in the English language. A subscriber writes: "The best is now the cheapest." All high priced editions of this work are in our office for comparison. Circulars and sample pages mailed. Agents wanted.

THE HENRY G. ALLEN COMPANY,

739 & 741 Broadway, New York; & 126 Washington St., Chicago.



RELiance OIL & GREASE CO., CLEVELAND, O.,

—MANUFACTURERS OF—

Finest Lubricants for Milling Plants. A Challenge to the World.

WRITE US.

"VALVE OLEINE"—675 Degrees Fire Test, Cylinder Oil.
 "CHIEF"—Roller Mill Lubricant.
 "NIAGARA"—Belt Grease.

"RUSSIAN"—Engine and Machine Oil.
 "ANCHOR"—Roller Mill Grease.
 "CHELSEA"—Scale Solvent, Best on Market.

SPECIAL
HIGH GRADE
PRODUCTS

Agents Wanted.

FREE—SAMPLES, CATALOGUE, AND ALL INFORMATION.

THE "HARLOW" Positive Feed Lubricators.

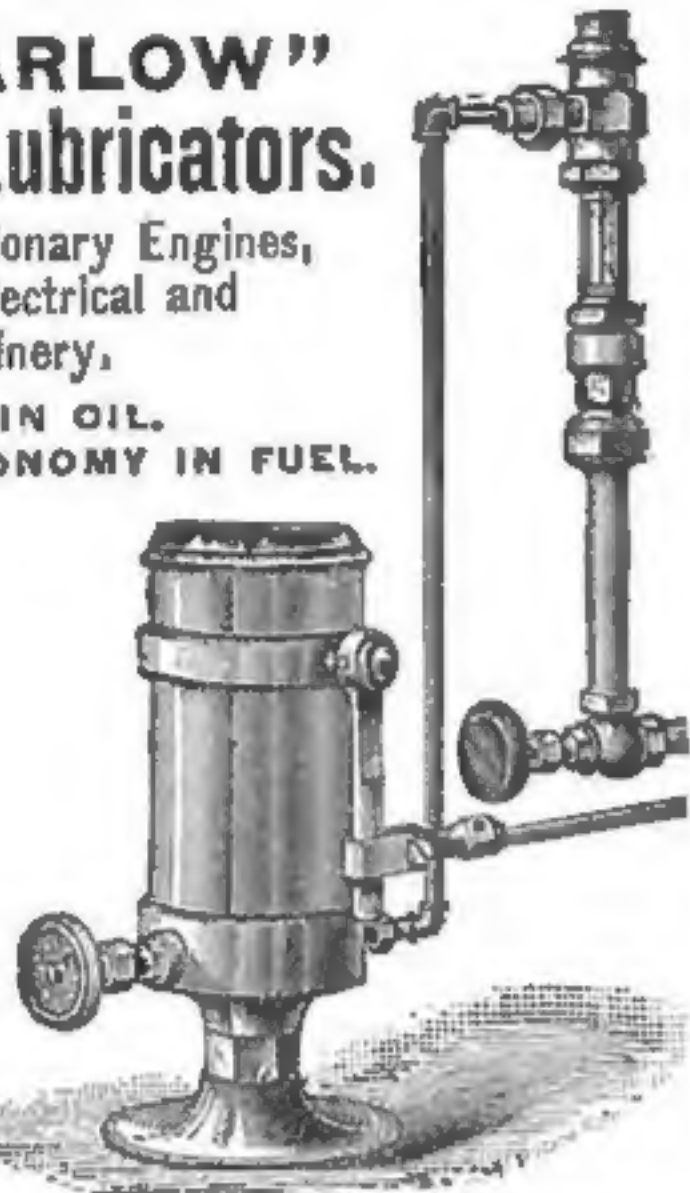
For Marine and Stationary Engines,
Steam Pumps, Electrical and
other Machinery.

MAXIMUM ECONOMY IN OIL.
MARKED ECONOMY IN FUEL.

Not dependent upon or
operated by Steam
Pressure, Condensa-
tion or Gravity.
Not affected by chan-
ges of temperature.

BEING operated by
some moving por-
tion of the engine or
machine to be lubri-
cated, the "Harlow
Lubricator" starts
and stops with the
engine or machine
being lubricated, without requiring the slightest atten-
tion from the engineer or operator, always delivering the
oil in any amount from a drop to a constant stream.
The cup can be filled at any moment while the engine
or machine being lubricated is in operation, without
causing any leakage either of oil or steam.

Harlow Lubricator Mfg. Co. BOSTON, Mass.
U. S. A.



New Improved Patent Head Linings.



DESCRIPTION.

These Linings are curved edgewise and flatwise, be-
sides having the edge beveled, so as to make them fit
the head and chine PERFECTLY, without springing
them edgewise when nailing.

If you use them once you will have NO
OTHER. No need of pounding fingers, as
the ends do not have to be held down while
nailing. They are much more convenient
to nail and look better than any other.
They are first tied in bundles of two hun-
dred, and when dry, are put into keels,
weighing about fifty pounds each, and tied
with two strong wires, to make them handle
better and to prevent loosening out in transit.

Write for prices and state about the num-
ber you use per year.

To convince you of their merit, and for
the purpose of introducing them, I will
ship a sample order of from five to ten
thousand at a REDUCED RATE.

SEND US A TRIAL ORDER: SATISFACTION
GUARANTEED.

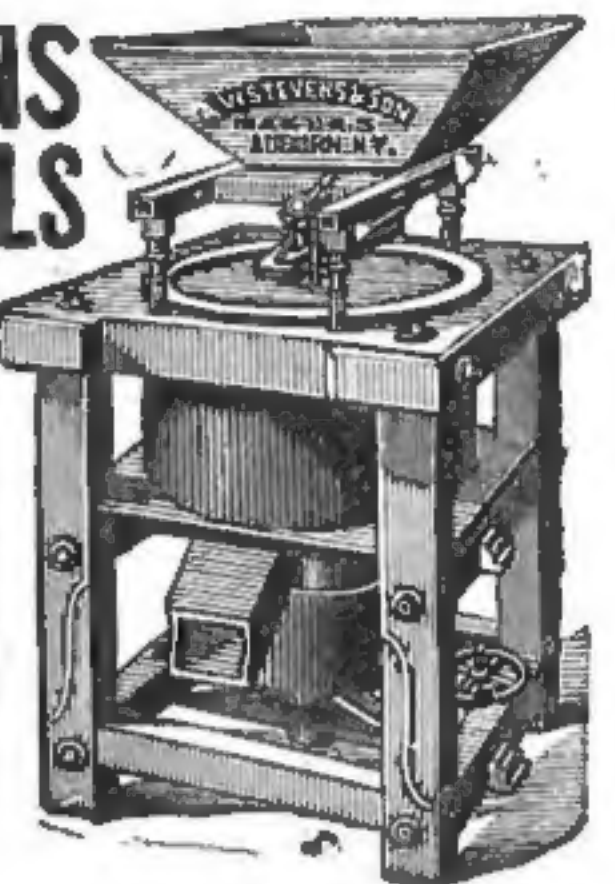
J. H. PETERS,
Owner of Patent and Manufacturer,
COLEMAN, MICH.

THE STEVENS PORTABLE MILLS

For CORN and
FEED GRINDING

Genuine French
BUHR STONES
Power Corn Sheller
Prices Below the Lowest
A.W. STEVENS & SON
AUBURN, N. Y.

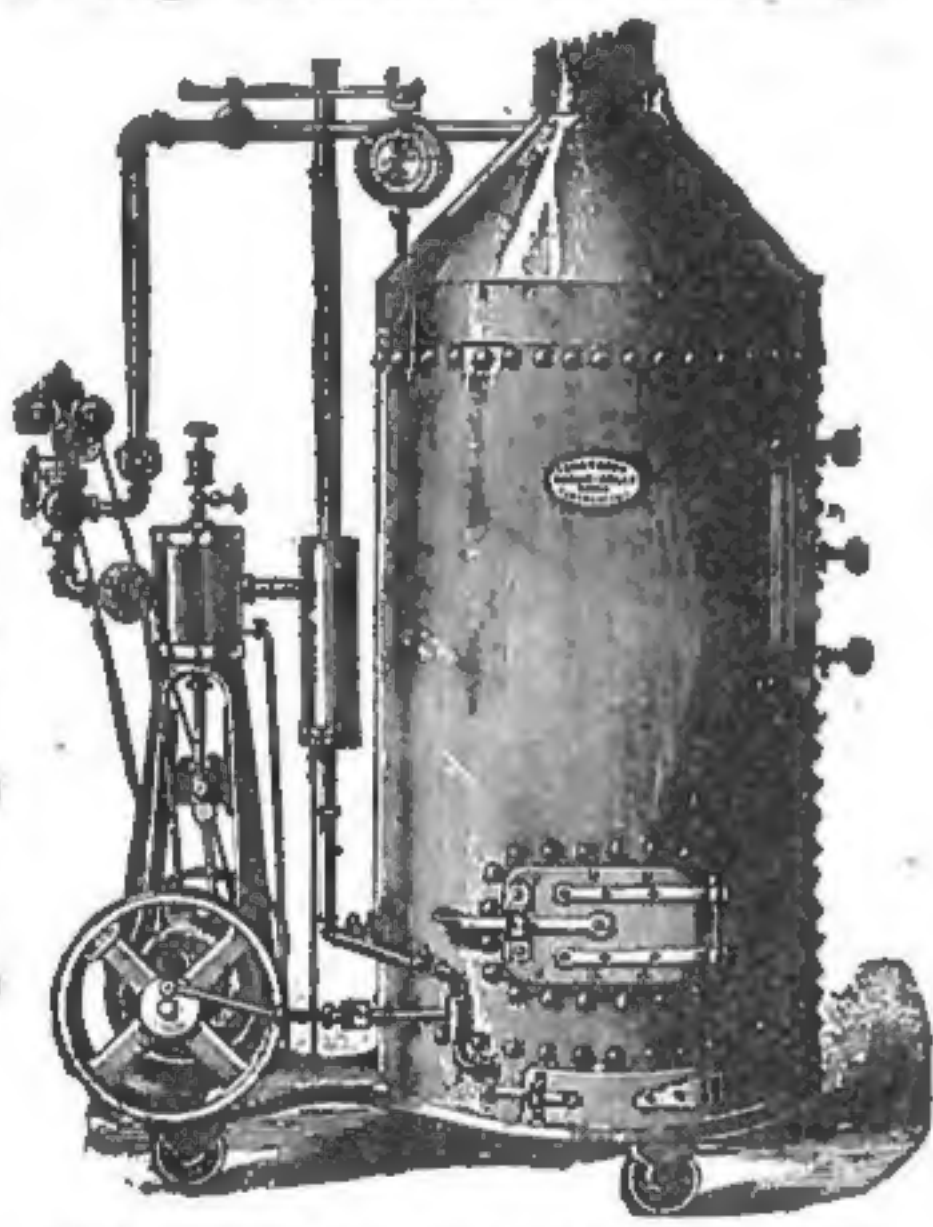
Mention this paper.



TONAWANDA ENGINE AND BOILER WORKS

A Large Assortment of Machinery.

The Best 6-Horse Power Semi-Portable Up-
right Engine and Boiler Made.

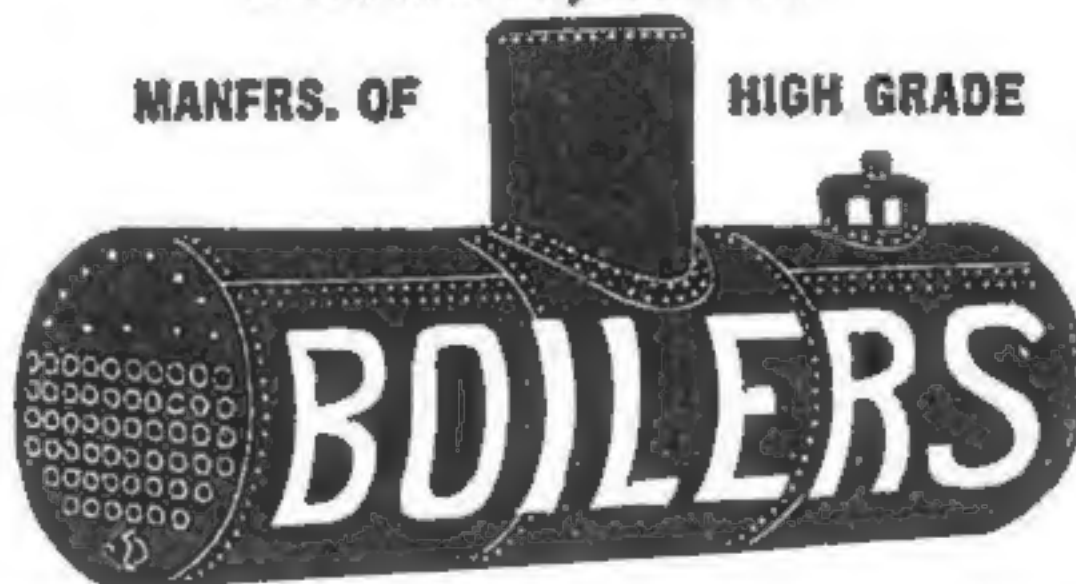


SPECIAL PRICE. GUARANTEED.

SEND FOR CATALOGUE.
ARMITAGE, HERSCHELL & CO.
Tonawanda N. Y.

EAGLE IRON WORKS, DETROIT, MICH.

MANFRS. OF HIGH GRADE



HORIZONTAL, UPRIGHT
PORTABLE AND MARINE.

Oil Tanks & Smoke Stacks,

HEAVY SHEET IRON WORK.

CORRESPONDENCE SOLICITED.



THIS WHEEL GIVES HIGH RESULTS, AND
IS ACKNOWLEDGED THE BEST, MOST PRAC-
TICAL AND EFFICIENT TURBINE MADE.
FOR SIMPLICITY, DURABILITY, AND
TIGHTNESS OF GATE IT HAS NO EQUAL.

State requirements and send for Catalogue to

T. C. ALCOTT & SON,
MOUNT HOLLY, N. J.

The LIPPOLD DUSTLESS CORN SHELLER & CLEANER

MANUFACTURED BY

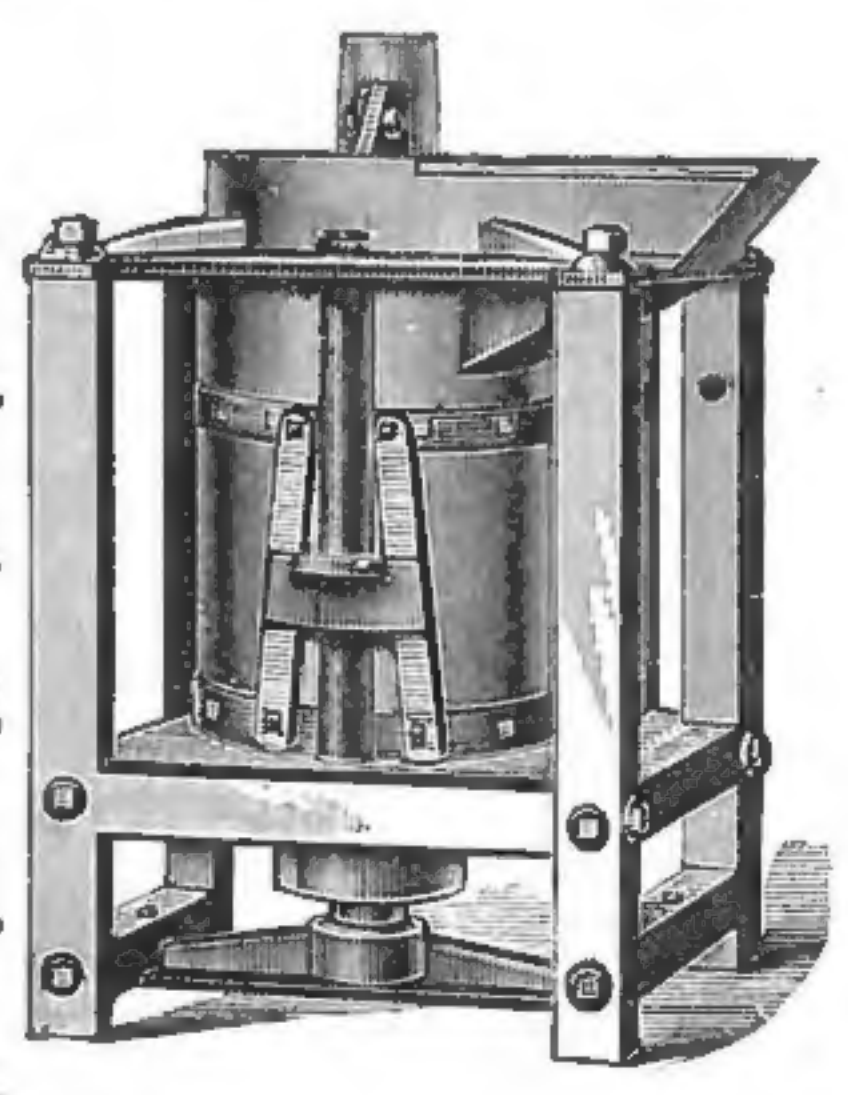
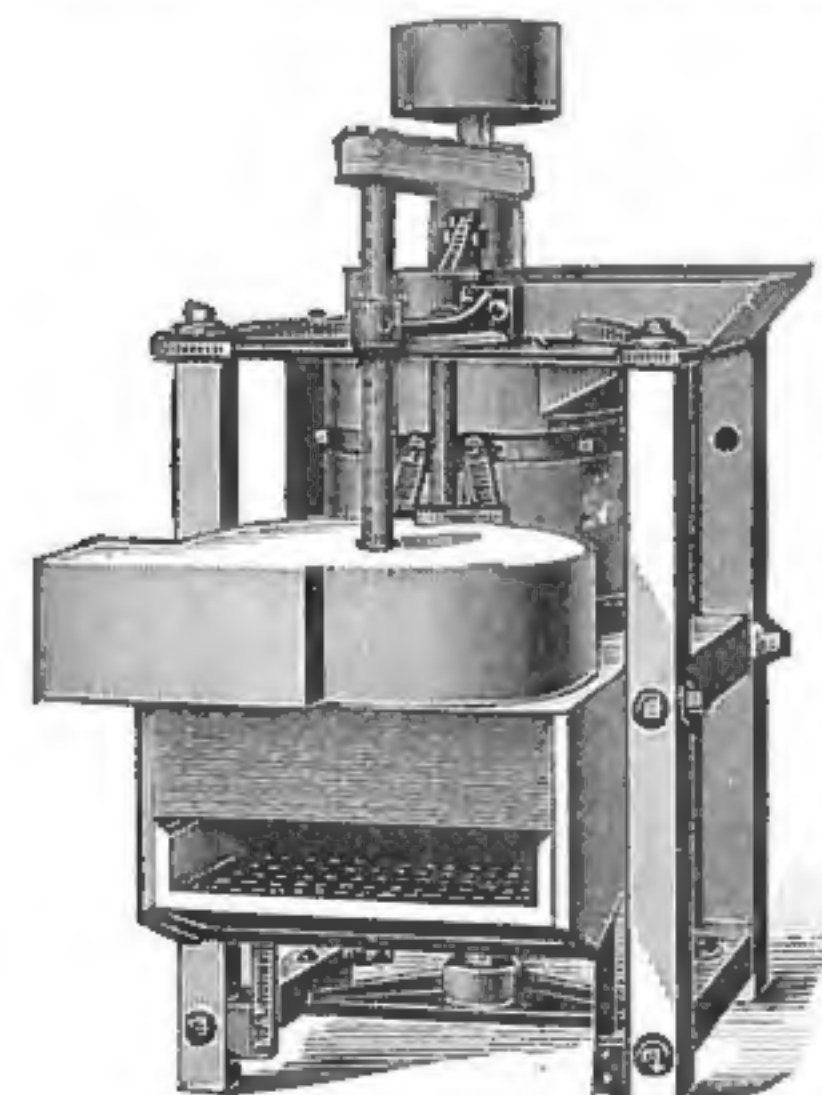
The LIPPOLD MFG. CO.
ERIE - - PENN.

THE HIGHEST CAPACITY for the LEAST MONEY.

The Best Machines for Mills and Elevators.

Machines Sent on Thirty Days' Trial.

SHELL UNHUSKED CORN AND CLEAN IT PERFECTLY.



WRITE FOR ILLUSTRATED CIRCULAR WITH PRICES.
NAME THIS PAPER.

INSURE IN THE TRADERS & TRAVELERS

Accident Company,
287 BROADWAY, NEW YORK.

BENEFITS.

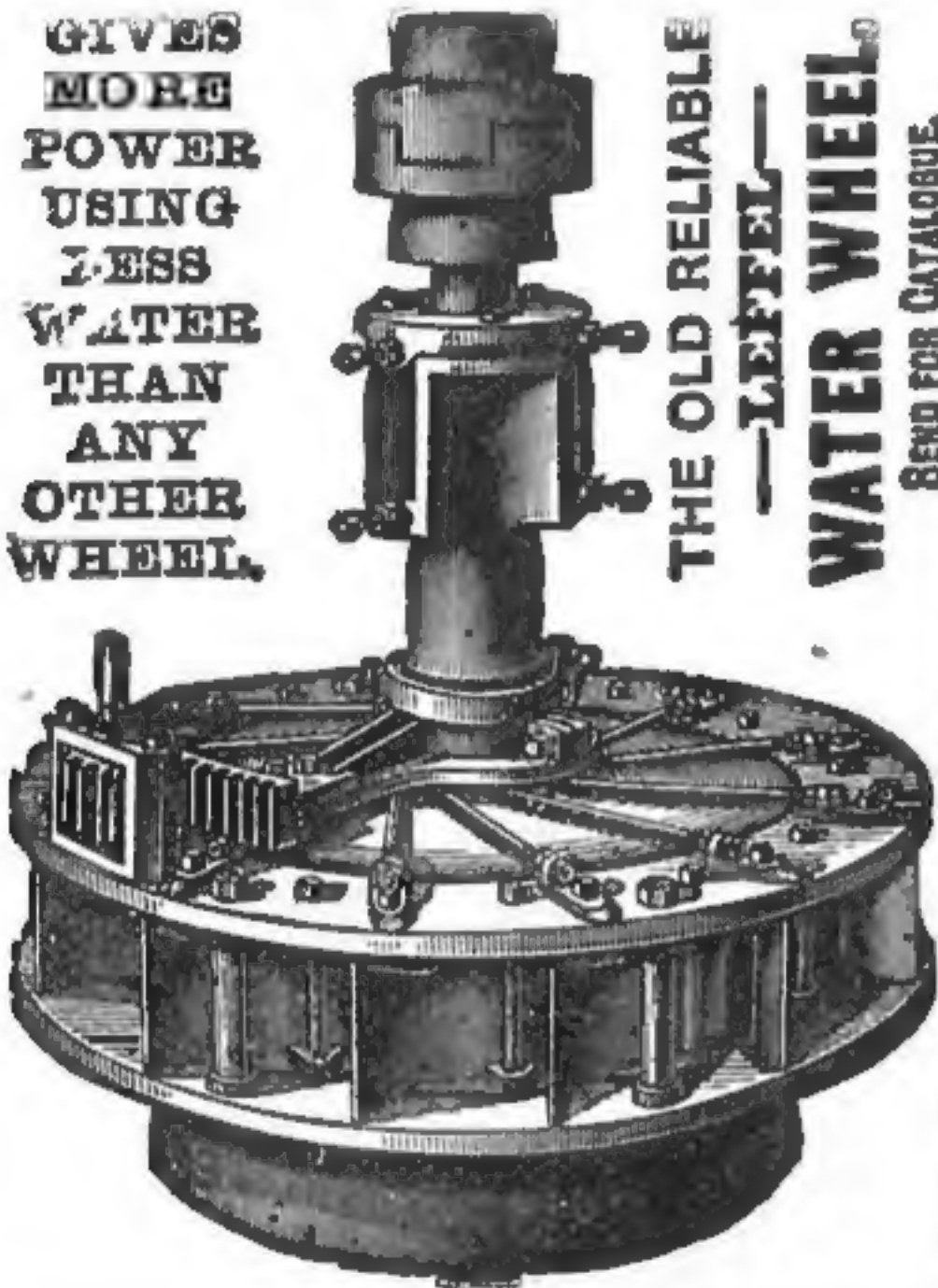
\$5,000 for Death.
\$5,000 Loss of Limbs.
\$2,500 Loss of Limb.
\$2,500 Loss of Sight.
\$1,250 Total Disability.
\$650 Loss of One Eye.
\$25 Weekly Indemnity for
26 Weeks.
One Set of Individual Registry Plates
Included.

COST.

Four Quarterly Payments, \$10.00
Annual Dues, - - - 1.00
Membership Fee, 5.00. \$11.00

IMPORTANT NOTICE.—The Traders & Travelers Accident Co. of New York desire the services of one responsible representative in each town to act as agent for the general transaction of their business. A liberal and permanent arrangement will be made with parties who can fill the above requirements. Address
C. S. SOMERVILLE, Sec'y.

GIVES
MORE
POWER
USING
LESS
WATER
THAN
ANY
OTHER
WHEEL.



THE OLD RELIABLE
—LEFFEL—
WATER WHEEL.
SEND FOR CATALOGUE.
JAMES LEFFEL & CO.
SPRINGFIELD, O., OR 110 LIBERTY ST., N.Y.

PREJUDICE Investigate the merits of the Reliance Safety Water Columns. It pays to keep posted. Many of the largest corporations have found it profitable to discard the old appliances and adopt these safeguards. There is always economy in safety. Send for illustrated price-list.

Reliance Gauge Co., 831 Sheriff St., Cleveland, Ohio.

SCIENTIFIC AMERICAN

ESTABLISHED 1845.

Is the oldest and most popular scientific and mechanical paper published and has the largest circulation of any paper of its class in the world. Fully illustrated. Best class of Wood Engravings. Published weekly. Send for specimen copy. Price \$3 a year. Four months' trial, \$1. MUNN & CO., PUBLISHERS, 361 Broadway, N.Y.

ARCHITECTS & BUILDERS

Edition of Scientific American.

A great success. Each issue contains colored lithographic plates of country and city residences or public buildings. Numerous engravings and full plans and specifications for the use of such as contemplate building. Price \$2.50 a year, 25 cts. a copy. MUNN & CO., PUBLISHERS.

PATENTS

may be secured by applying to MUNN & CO., who have had over 40 years' experience and have made over 100,000 applications for American and Foreign patents. Send for Handbook. Correspondence strictly confidential.

TRADE MARKS.

In case your mark is not registered in the Patent Office, apply to MUNN & CO., and procure immediate protection. Send for Handbook.

COPYRIGHTS for books, charts, maps, etc., quickly procured. Address

MUNN & CO., Patent Solicitors.

GENERAL OFFICE: 361 BROADWAY, N. Y.

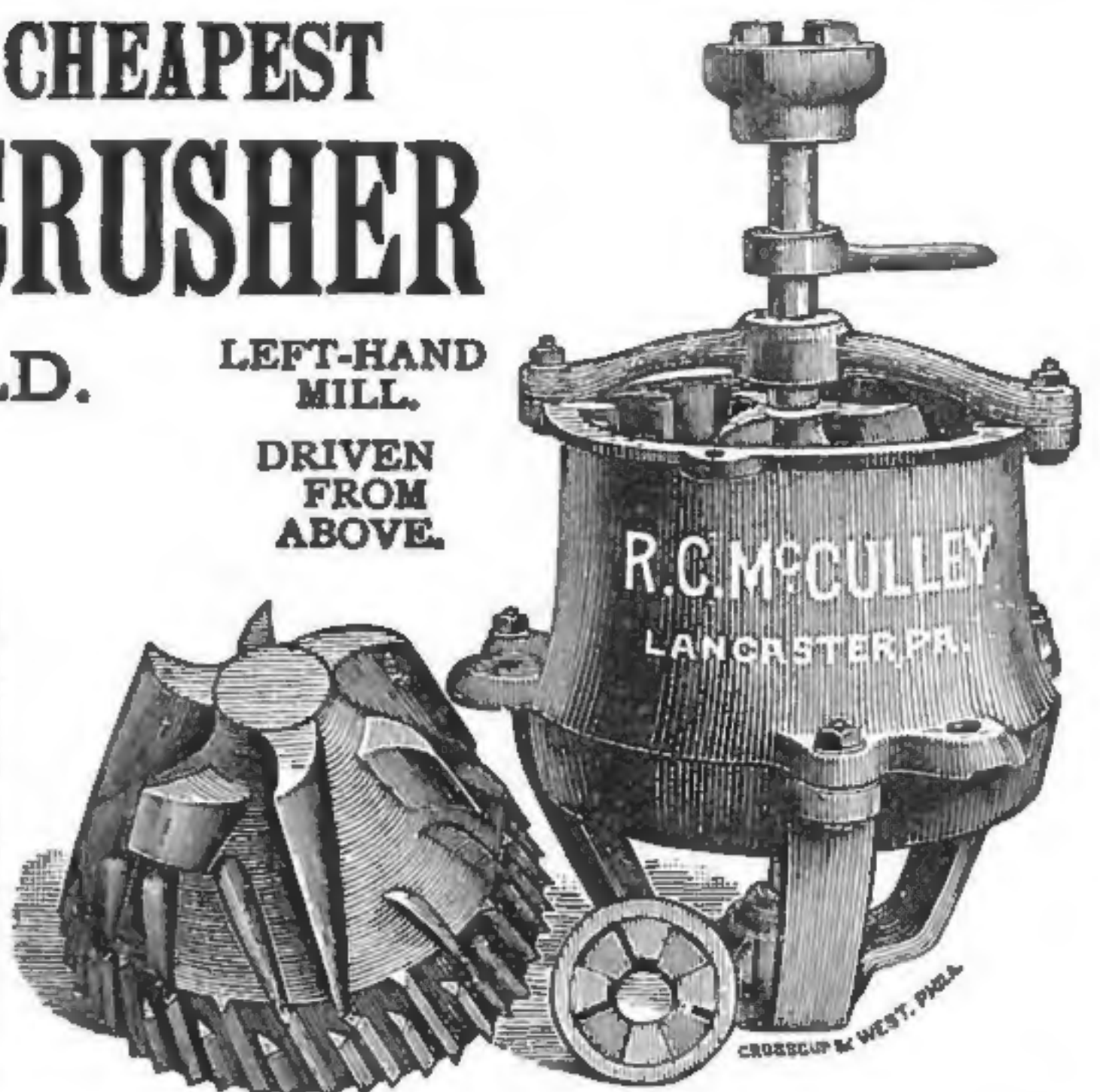
THE BEST AND CHEAPEST CORN AND COB CRUSHER IN THE WORLD.

All wearing parts cast of a steel mixture. Notice difference in construction. Most area where most work is done, where all other crushers have least area where most work is done. Low priced machinery is not the cheapest, considering durability and efficiency. Sent on 30 days' trial when satisfactory reference is furnished.

Please Send for Circulars.

LEFT-HAND
MILL.
DRIVEN
FROM
ABOVE.

RIGHT-HAND
RUNNER.



R. C. McCULLEY, LANCASTER, PENN.

\$15

WILL BUY THE BEST AND CHEAPEST CORN & COB CRUSHER IN THE WORLD.



Our crushers are made of a "special quality" of material that insures years of service. Thousands of these crushers are in use throughout the United States and Canada. Send for circular, giving testimonials from millers who are using them, and know a good thing when they see it.

T. B. WOOD'S SONS, CHAMBERSBURG, PA.

Manufacturers of
Shafting, Pulleys, Hangers, Mill Gearing, Etc.

SCRIBNER'S
MAGAZINE



AN IMPORTANT
CLUB OFFER

SCRIBNER'S
MAGAZINE



Gives its readers literature of lasting interest and value, it is fully and beautifully illustrated and has already gained a more than national circulation exceeding 125,000 copies monthly.

PRICE 25 CENTS A NUMBER. \$3.00 A YEAR.

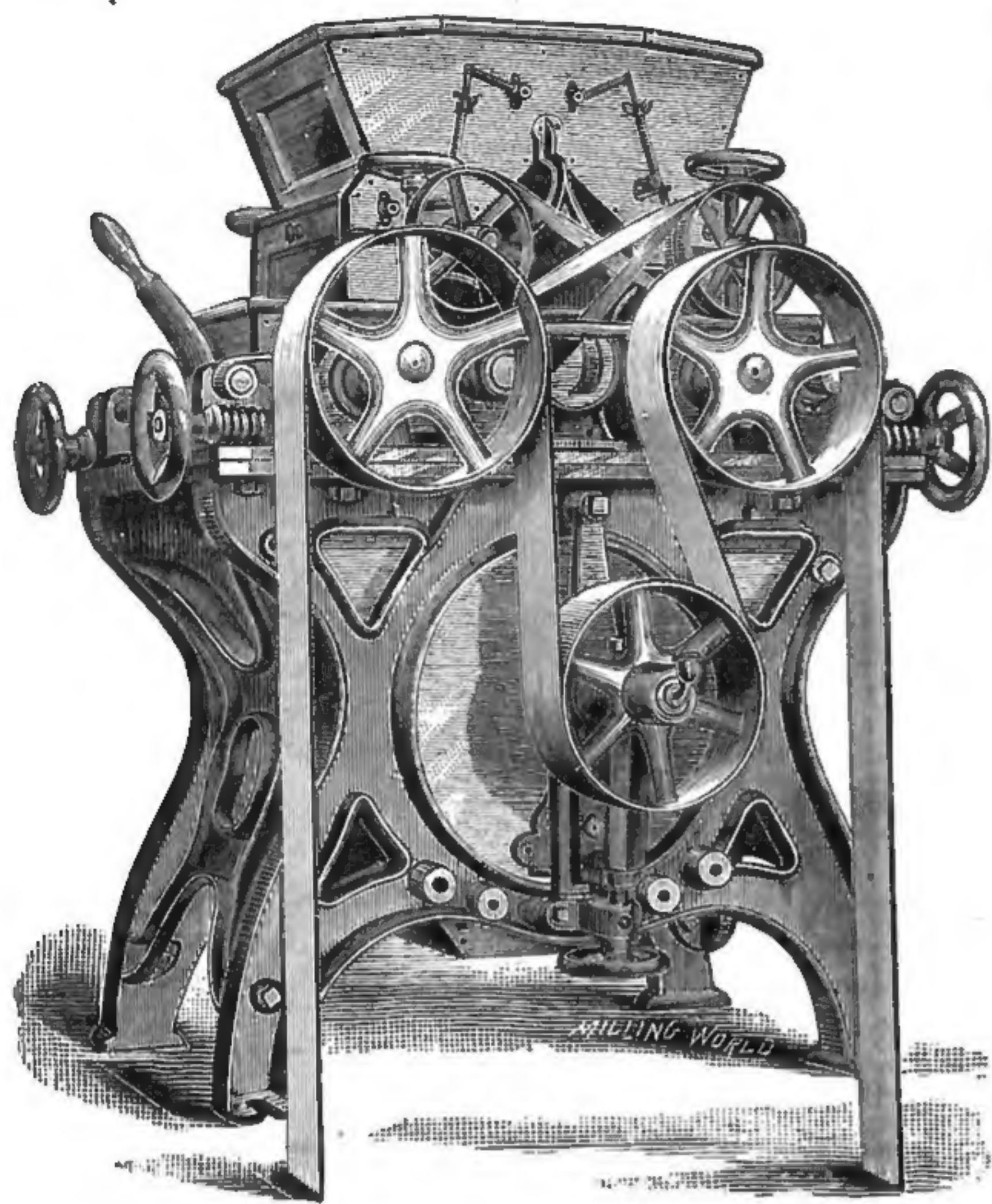
SPECIAL ARRANGEMENTS with Messrs. Charles Scribner's Sons the Publishers enable us to offer SCRIBNER'S MAGAZINE with the

"Milling World" at the low combination rate \$3.50 for both. Send your order now. Subscriptions may begin at once. Address,

McFaul & Nolan, - Buffalo, N. Y.

PARTIES WILL PLEASE MENTION THIS PAPER
WHEN WRITING TO ADVERTISERS.

JOHN HUTCHISON MFG. CO., Mill Builders and Mill Furnishers.



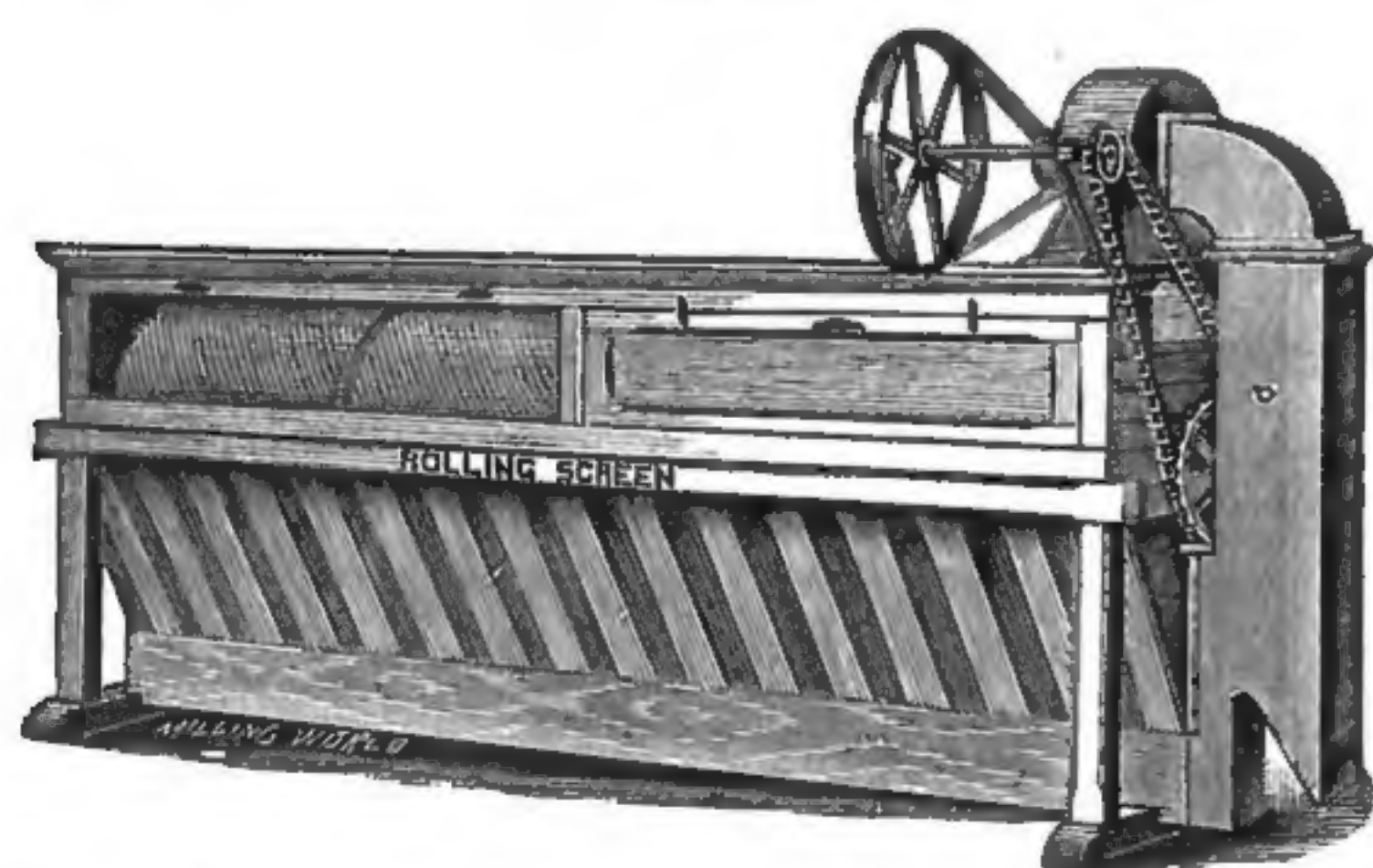
"The Rickerson." The original six inch 4 Roller Mill. We now own the patents on this mill and after greatly improving the mill manufacture them in four sizes:

6x12 inch.

6x18 inch.

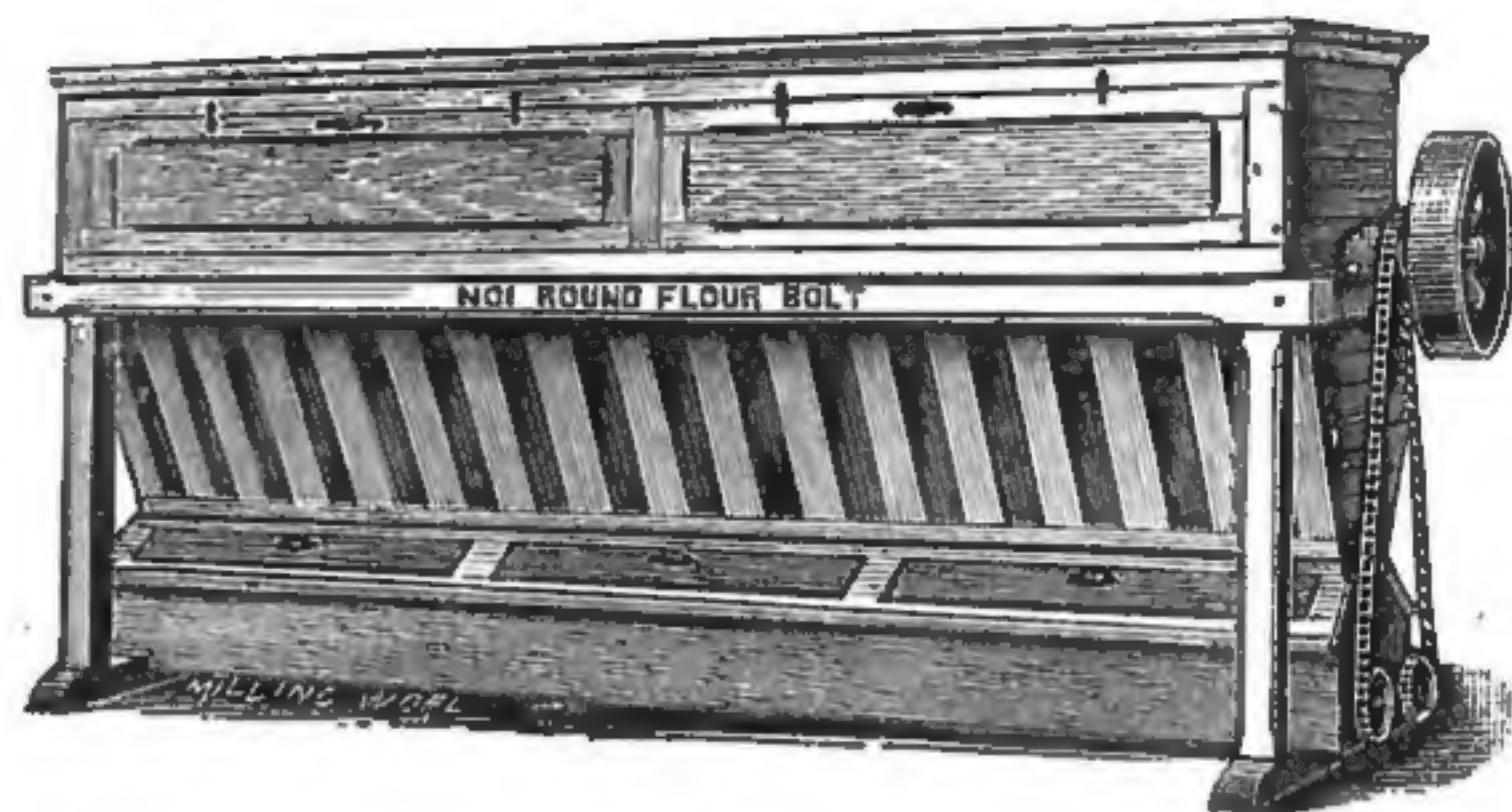
6x15 "

6x20 "

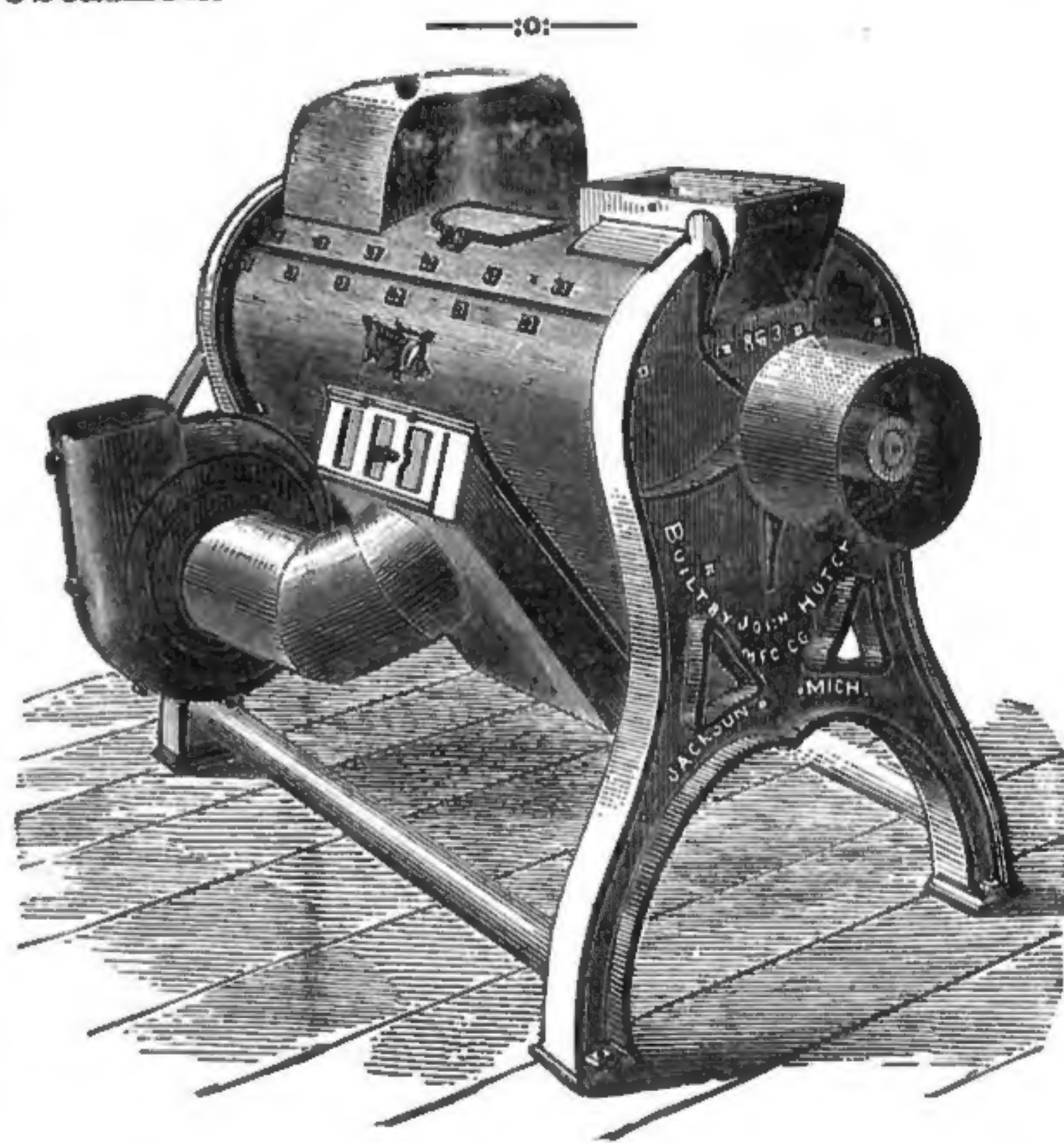


The above cut represents our New Rolling Screen, which is absolutely dustless and has as much scouring qualities as any two scouring machines now being made.

Send for Estimates for Our Full Roller Mills of any Capacity.



The above cut shows our New Round Slow Running Flour Bolt. We also build a Cylinder or Round Scalping Reel and we have lately built a number of new mills of medium capacity, using our Roller Mills, our Round Flour Bolts and Scalping Reels, getting better results than is usually obtained.

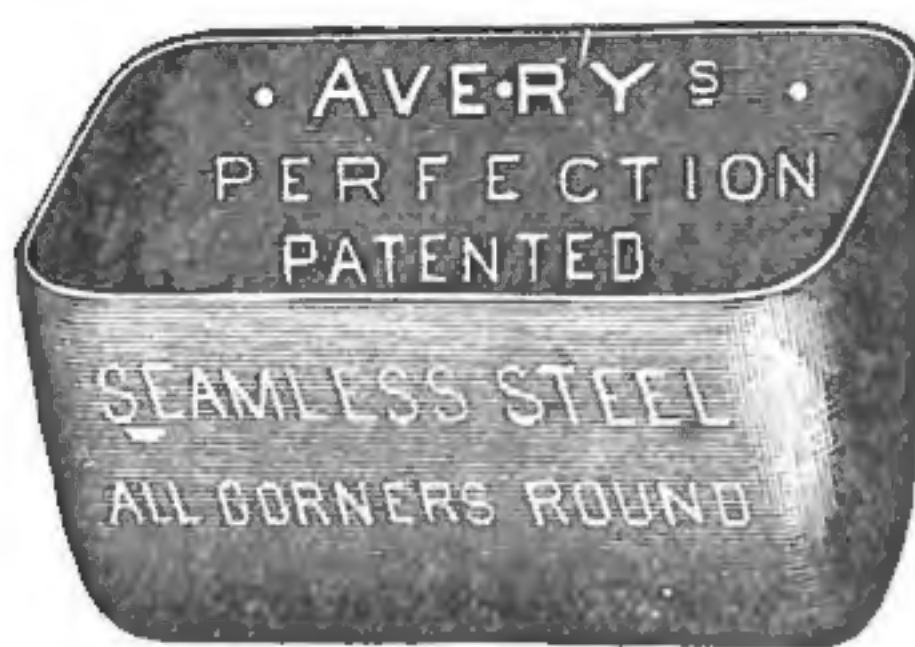


Hutchison's New Dustless Iron Corn Sheller, especially adapted for Mill and Elevator use.

ADDRESS ALL CORRESPONDENCE TO:—

John Hutchison Mfg. Co.

JACKSON. . . MICHIGAN.



ELEVATOR BUCKET.

CORRUGATIONS

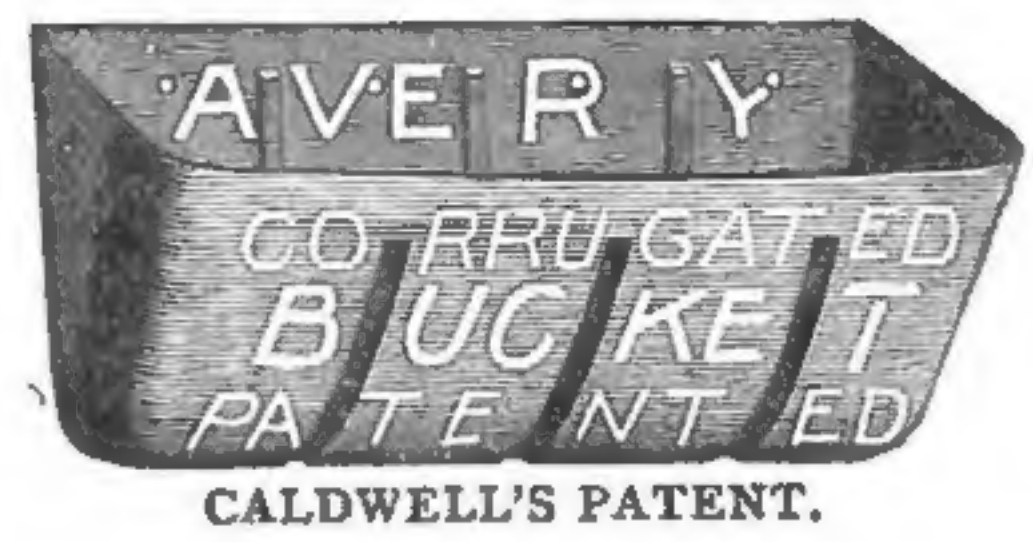
What we know of corrugations can be found out by writing to US, or H. W. Caldwell, Chicago, Ill.

Stamping and Pressing of Sheet Metals for all Classes of Work. Also Tinning, Galvanizing and Japanning.

THE AVERY STAMPING CO.,

Cleveland, Ohio, U. S. A.

New York Office, 51 Cliff Street, HALL & NEAR, Agents.



SELF-TRAMMING

PORTABLE MILL

BEST GRINDING MILL MADE.

BOLTING CLOTH

AND

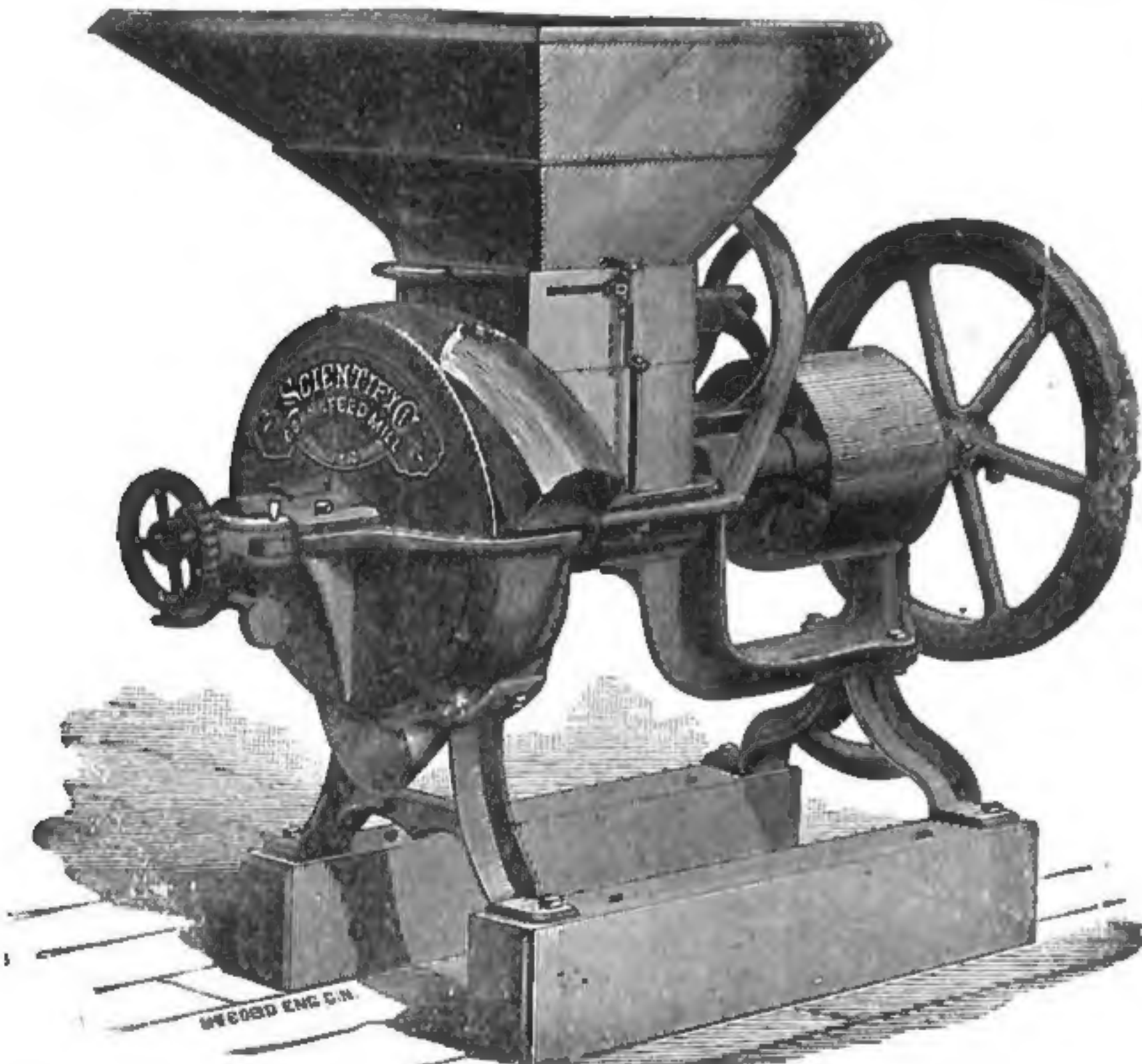
BURR AND ESOPUS MILLSTONES

WRITE FOR DISCOUNTS.

SAMUEL CAREY,

17 Broadway,

NEW YORK.



THE SCIENTIFIC GRINDING MILL.

POSITIVELY THE BEST MILL ON EARTH.

GRINDS PERFECTLY, EAR CORN, SHELLLED CORN, AND ALL GRAINS.

GRINDING PLATES A SPECIAL METAL

Hard as Steel, Guaranteed to Grind from Five to Eight Thousand Bushels before wearing out.

SEND FOR ILLUSTRATED CATALOGUE, PRICES, ETC.

THE FOOS MFG. CO.

SPRINGFIELD OHIO.

STILL ON TOP.



Perhaps the HIGHEST COMPLIMENT that could be paid the "Salem" bucket is the fact that during the past few years ITS SHAPE HAS BEEN SO CLOSELY IMITATED by other manufacturers as to infringe our patented rights, but experience reveals the IMPERFECTIONS OF IMITATIONS, and we therefore take it as a FURTHER COMPLIMENT to the "SALEM" bucket that some of its old patrons who were Induced to Try the Imitations have now Returned to the Salem Bucket, thereby Acknowledging it to be the Most Satisfactory. Don't be deceived by other makes of buckets that are claimed to be "Just as Good." Insist upon having the ORIGINAL AND RELIABLE SALEM BUCKET. All legitimate Salem buckets are plainly marked with the word

SALEM

W. J. CLARK & CO., SOLE Manufacturers SALEM, OHIO.

THORNBURGH & GLESSNER, General Agents, CHICAGO, ILL.